THE Genesee Farmer.

THE PRACTICAL AND SCIENTIFIC FARMERS OWN PAPER.

Vol. XXII, Second Series. ROCHESTER, N. Y., MAY, 1861. No. 5.

WHAT DO WE PLOW FOR?

Such was one of the questions suggested as an appropriate subject for a Prize Essay. It is a question of considerable importance, and called out *twelve* essays. One of them was awarded the prize, and published in the February number, page 52. The other eleven essays are before us, and it will not be uninteresting to glance at some of the principal reasons assigned for this fundamental agricultural operation.

1. We plow to bury the weeds, grass, and other vegetation.

2. We plow to loosen and pulverize the land. All soils, but especially those of a clayey nature, have a tendency to consolidate, and soon become too firm and compact for the tender, hair-like roots of young plants to enter. The soil may contain all the plant-food required, but if it is so hard that the roots can not penetrate, it will be of no avail. It is locked up. Plowing is the key that unlocks the storehouse. The plow is inferior to the spade, because it does not break up and pulverize the soil so thoroughly. If we had a digging machine that could be worked by horses or steam —as we undoubtedly shall have before many years —it would soon supersede the plow.

3. We plow to let in the sun and air. In nearly all soils there is a large amount of inert organic matter which could be rendered available plant-food by fermentation or decomposition. This is accelerated by the admission of air. Like water, air will penetrate all porous bodies. Large lumps of sugar are long in dissolving, because the water has access only to the outside; but crush it, and let the water get at all its particles, and they are dissolved with great rapidity. So of the soil, if it is in lumps, the air can not get at it; but loosen it and render it porous by plowing, harrowing, rolling, &c., and the air will be brought in contact with the particles of organic matter, and decompose them. It will also disintegrate the inorganic matter of the soil, and render more or less of it available as food for plants. It must not be forgotten, too, that the roots of plants need air.

The air contains ammonia and carbonic acid, and it is a well known fact that porous bodies will attract these gases. Thus Theodore de Saussure found that charcoal, heated to redness, and plunged while hot into mercury, and afterward, when cold, without being exposed to the atmosphere, plunged into ammoniacal gas, *absorbed ammonia equal to ninety times its volume.* That is to say, a cubic foot of charcoal would absorb one hundred pounds of ammonia—or as much as ten tons of ordinary barn-yard manure contains. The power of fresh charcoal for absorbing and condensing ammonia is due to its porosity. Spongy or porous platinum will absorb so much hydrogen gas that the heat evolved by its condensation will ignite it. Now, while a porous soil possesses no such power, there can be little doubt that it does absorb ammonia and other gases by the mere attraction which one particle of matter has for another. This power is in proportion to the amount of *surface* exposed to the air, and consequently the more the soil is comminuted, the more it is broken up and loosened, the greater will be its power of attraction.

Most soils, also, contain substances which have a *chemical affinity* for ammonia. Prof. Way says: "I find that clay is so greedy of ammonia that, if air charged with carbonate of ammonia, so as to be highly pungent, is passed through a tube filled with fragments of dry clay, *every particle of the gas* [ammonia] *is arrested.*" This power of clay to absorb ammonia from the air is ascribed by Prof. Way to the presence of a *double silicate of lime and alumina*, and he thinks one reason of the benefit of the application of lime is the formation of this double silicate. Of course, the more such soils are stirred—the more their particles are exposed to the air, the more ammonia can they absorb from the atmosphere. This power of soils to

attract ammonia from the atmosphere is one principal cause of the well known benefit of summer fallowing.

4. We plow to incorporate manure with the soil. The more thoroughly this is done the better. The carbonic acid generated by the decomposition of humus has a good effect in disintegrating the mineral matter in the soil. The soil may be regarded as a *stomach* in which the food of plants is digested and rendered assimilable. It is important, therefore, that the manure should be well mixed with the soil.

5. We plow (in the fall) to expose the soil to the pulverizing action of the frost in winter; to disturb the eggs and larva of insects and expose them to the cold.

TURKEY RAISING.

Eds. Gen. Farmer:—In our remarks on this subject, published in your March number, we did not give a reason for the opinion that it *costs* less to raise a turkey of from twelve to twenty pounds than a chicken of four pounds. We omittted it from the fact that, of the many with whom we are acquainted who have much experience in raising chickens and turkeys, we did not know an individual who did not agree with us on this subject; yet some of them have had from forty to fifty years' experience, and pass for men of fair "common sense." We trust, then, you will allow us to give our reasons, for perhaps it will not appear so far from "common sense and common experience" after you have had them.

It is a well known fact that some kinds of fowls consume much more food than others of three times their size (*a*). The common duck, of but three pounds, will eat more in a day than a large Java hen of nine pounds. This, we think, is common experience. We had a large cock turkey, of thirty-nine pounds, which could not be persuaded to swallow as much corn in a day as one of these small ducks would do voluntarily, if within its reach. We do not pretend to say which took the most common sense view of the matter of eating, but the *fact* was *our* "common experience." This season we had a young turkey shut up and fed, which, when *dressed*, weighed nineteen pounds. We fed a young Leghorn pullet of about two and a half pounds at the same time, but not at less expense (*b*). A gentleman of some forty years' experience said to us a short time since: "I always shut up my hens to fatten at the time I begin to feed my turkeys, yet I am satisfied it does not cost as much to fatten the turkeys as the hens, for after they (the turkeys) get pretty fat, they eat but little." Yet this man has young turkeys in his flock weighing from twenty to over twenty-two pounds, at killing time (*c*).

But from the time they are hatched to the time of fattening, there is a *great* difference in the expense. The chicken must be fed for months, the turkey often is not fed at all until the time for fattening; at least, after the first few days of its existence are passed, it requires but little food except the insects it gathers from the field. These are not only its best, but almost its only food from the time it is a week old, until the autumn frosts cut off its supply. So the cost is often nothing up to this time. If acorns, berries, or beech nuts are plenty, they often fatten with but a small draft on the crib. Yet all this time the chicken must be fed each day. We saw a fine flock of turkeys last autumn, which the gentleman informed us he had fed but once since they were hatched. We saw one of the young hens weighed. It then weighed over twelve pounds, and some of the young cocks about eighteen pounds. He had chickens then weighing two and a half to three pounds. These had been fed every, or nearly every day. Which cost the most? He said the chickens. We believed him. Last fall a gentleman called on us and wanted to sell us his turkeys before time to feed; said he did not want the trouble of feeding and killing; wished to sell them on the foot. He picked up one of them and weighed it. The weight was eighteen and a half pounds. He thought they had done him much good in picking up grasshoppers, crickets, and other insects, while his chickens, which he had fed through the summer, had cost him more than his turkeys. So he thought; and we believe it was a common sense view of the subject, and in accordance with the common experience of farmers here who raise turkeys. But, Messrs. Editors, as we look over the subject, is it not *possible* that a turkey, of from fourteen to twenty pounds, may be raised at as little *cost* as a chicken of four pounds? We might offer much more evidence of the fact, but presume that given is sufficient (*d*).

H. J. RAMSDELL.

Remarks.—(*a*) If this is a well known fact, it is one which is unknown to us. A few years ago, when the large Asiatic fowls were the rage, their admirers claimed that, although much larger than the common fowl, they ate much less; but no thoughtful man ever believed them! Breeders of the large Cotswold sheep claim that they eat no more than the smaller South Down, but this has been proved to be an error. We have repeatedly shown that, within certain limits, animals consume food in proportion to their live weight,* and we can see no reason to doubt that the same is true as a general rule in regard to our domestic poultry. The assertion that "some kinds of fowls consume much more food than others of three times their size" is so contrary to analogy that, so long as it rests on nothing more than loose statements, we can not believe it.

(*b*) If by this is meant that the turkey *eat* no more food than the pullet, the fact is a most extraordinary one—so much so, indeed, that we think our correspondent must mean simply that the turkey was fed on food which cost little or nothing, while the pullet was fed on expensive food. Un-

*See *Genesee Farmer* for June, 1860, page 169.

derstood in this way, the statement may be correct. So, too, we may say that it costs more to feed a lady's lapdog than the largest mastiff; and this would be true, if the one eat "pound cake" and boned turkey, while the other had nothing but old bones and kitchen waste; and yet the latter would consume three times as much *food* as the little poodle.

(*c*) It is true than animals eat somewhat less after have attained a certain degree of fatness. But it cannot be that one of these turkeys, weighing twenty pounds, eats no more than a chicken, equally fat in proportion to size, weighing only four or five pounds. Fat can not be formed from air; nor bones and muscle from water. They are obtained from the food. Can a turkey abstract five times as much bone, muscle, and fat from a given quantity of food as a chicken?

(*d*) Our remark was: "*It* can not be that a turkey weighing fourteen pounds *eats* no more than a chicken weighing four pounds." This is the point in dispute. If a turkey eats food which costs little, or nothing, while the chicken is fed on expensive food, the turkey would of course *cost* the least. But this is not the sense in which we understand Mr. R.'s remarks. If he means nothing more than this, we have no controversy with him. But there are several remarks in the above article which seem to indicate that he thinks a turkey eats no more than a chicken.

We will close with a quotation from a standard English author, the Rev. E. S. Dixon. In his book on Ornamental and Domestic Poultry, referring to the rearing of turkeys, he says:

"When young turkeys approach the size of a partridge, or before, the granular fleshy excrescences on the head and neck begin to appear; soon after, the whole plumage, particularly the tail feathers, start into rapid growth, and the "disease" is only to be counteracted by *liberal nourishment*. If let loose at this time, they will obtain much by foraging, and still be thankful for all you choose to give them. Caraway seeds, as a tonic, are a great secret with some professional people. They will, doubtless, be beneficial, if added to plenty of barley, boiled potatoes, chopped vegetables, and refuse meat. And now is the time that turkeys begin to be troublesome and voracious. What can you expect else from a creature that is to grow from the size of a lark to twelve or fourteen pounds in eight or nine months? "Corn sacks, coffers for oats, barn swallowers, ill neighbors to peasen," are epithets deservedly earned. They will jump into the potato ground, scratch the ridges on one side, eat every grub, wire worm, or beetle that they find, and every half-grown potato. From thence they will proceed to the Swedes; before the bulbs are formed, they will strip the green from the leaves, thereby checking the subsequent growth of the root. At a subsequent period, they will do the same to the white turnip, and here and there take a piece out of the turnip itself. They are seldom large enough before harvest to make so much havoc among the standing grain as cocks and hens and guinea fowl, or they have not yet acquired the taste for it; but when the young wheat comes up, they will exhibit their graminivorous propensities to the great disadvantage of the farmer. The farmer's wife sees them not, says nothing, but at Christmas boasts of the large amount of her turkey money. One great merit in old birds (besides their ornamental value, which is our special recommendation) is, that in situations where nuts, acorns, and mast are to be had, they will lead off their brood to these, and comparatively (that is all) abstain from ravaging other crops. It is, therefore, not fair for a small occupier to be overstocked with turkeys (as is too often the case; and with other things also), and then to let them loose, like so many harpies, to devastate and plunder their neighbors' fields.

Probably the truth lies between these extreme views. At all events, we believe in turkeys—at least on "Thanksgiving Day"—and should be very glad to see it proved that a good, fat, fourteen pounder costs no more than a common four pound chicken, for then we should soon have turkeys down to two cents a pound, and even "poor editors" could fare sumptuously every day. What a good time we'll have!

Applying Manure to Corn.—The Transactions of the Nantucket (Mass.) Agricultural Society for 1860, contain the result of an experiment by E. W. Gardner, in regard to the best manner of applying manure to corn. The plat *without manure* yielded at the rate of 12 bushels per acre; manure *spread on top*, 38 bushels; manure *cultivated in*, 45 bushels; manure *plowed in four inches deep*, 65 bushels; and manure *plowed in eight inches deep*, 60 bushels per acre. The experiments were on too small a scale (145 feet square,) to be entirely satisfactory. The whole land had been manured the year previous, with six cords of good barn cellar manure per acre.

No Bugs in Late Sown Peas.—Mr. John M. Smith, of Wheatland, informs us that he sowed 5½ acres of peas last year, *the first week in June*, and they were entirely uninjured by the bug.

They were sown on corn ground. All but one acre was sown without being plowed—the land being harrowed and cultivated in the spring, and the peas gang-plowed in. The peas on the acre that was plowed were the best. The whole crop, however, averaged 35 bushels per acre. The variety was what is known here as the "Canada Creeper.' The peas were off early enough to allow the land to be sown to wheat in good season.

FINGERED WHEAT AND BARLEY.

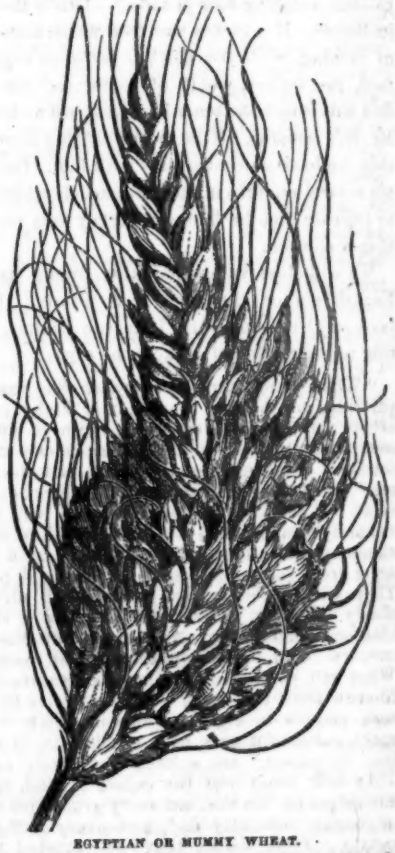
THE *London Agricultural Gazette* of March 16 gives an account of a variety of fingered barley, which was discovered two years ago, in considerable quantities, in a field in Northamptonshire. The field had been taken in from the Forest but a short time. The *Gazette* says:

"Of the six ears of the fingered form before us, which originated from this seed, one has six spikes, a second five, a third three, while the remaining

FINGERED BARLEY.

three have two only. In these, however, the main spike is very long, measuring in one instance five inches and a half, and in another four and three-quarters. The tip, however, of the first is broken off, so that it probably measured, when perfect, at least six inches. The additional spikes all spring from the axils of the outer lateral glumes, occupying, in fact, the place of one of the fertile lateral spikelets which are the distinguishing feature of the common two-ranked barley, the only one which is much cultivated in England. This, indeed, is not quite evident at first, as the spikes are sometimes turned to one side, probably from the barley having been beaten down by rain.

"The quality of the grain, so far as can be judged from a very bad barley year, and from specimens which had been lying about exposed to daily wet for at least a month, is far from coarse, and we have no doubt that in a good year it would prove excellent. Indeed, we are inclined to think, from its general appearance, combined with the very slight curvature of the barren spikelets, as well as from the plumpness of the grain and length of the spike in the best specimens, that it is to the variety known under the name of Chevalier Barley that it owes its origin. Whether the Fingered Barley will be permanent is a question which can only be proved by cultivation. We have, however, fears about it, as it has arisen merely from peculiar conditions of climate, and not apparently from any cross with some other variety. We wait, therefore, with some impatience, the result of next harvest, as the question is not only important to the farmer, but also of some physiological importance. In general, increased produce is obtained at the expense of quality, but there is promise of something better in the present instance, should the variety remain true to the seed."



EGYPTIAN OR MUMMY WHEAT.

There is a variety of fingered wheat that has long been known under the name of Egyptian or

Mummy Wheat. We annex a cut of an ear sent to this office some years ago. It yields well, but the quality is rather inferior, and it is seldom cultivated except as an object of curiosity. The story is that the seed was taken from an Egyptian mummy, and it is supposed to be the same "corn" referred to in the Bible as "seven eared."

TWO AND SIX ROWED BARLEY.—In an article on the Agriculture of Denmark, in the Journal of the Royal Agricultural Society, it is said that "in all the fertile districts of the country the two-rowed barley, which has a fuller kernel, has, to a great extent, supplanted the six rowed barley. On the west coast of Jutland, however, the six rowed barley is the most common, because it is the hardiest, requires less rich soil, and is better adapted for an inclement and stormy climate, as it ripens earlier and is not so easily destroyed by wind. The Chevalier barley was much in vogue, ten or twenty years ago, in Denmark, but has never become general on account of the length of time it requires to ripen." The barley of Denmark is of good quality, weighing from 53 to 54 lbs. per bushel. Have our readers observed any such difference between the two and six rowed barley? We may here observe that what is usually termed *four* rowed barley is in fact *six* rowed. There is no *four* rowed barley. It is either two rowed or six rowed. The latter sometimes appears to have only four rows, but this is owing merely to imperfect development.

SPIRIT OF THE AGRICULTURAL PRESS.

SHEARING SHEEP.—A correspondent of the *Ohio Farmer* says: "The operator must have a good pair of shears. He must know how to keep them in order, for it is certain that a dull tool makes poor work. Good, sharp, bright shears, not too sharp pointed, will run smooth. The spring should not be so limber as to double over the wool, nor too stiff so as to make the wrist lame. With skill, a steady nerve, and an even temper, it can be made to do good work. There are various opinions in regard to position. Some shear on the floor, others use a bench. Good work may be done either way; I prefer using a bench. In all cases the operator should hold the sheep in the easiest possible position, and keep the skin tight so as to make a smooth surface to prevent cutting the skin, causing the sheep to kick, or tear the fleece, and so exert their strength as to injure them and sometimes to cause death. This can and ought to be avoided."

TO KEEP BIRDS FROM EATING SEED.—A correspondent of the London *Cottage Gardener* says that if the seed is moistened with water (not wet, nor soaked), and then dusted with red lead and stirred till every seed is coated with the powder, birds will not touch it; neither will mice.

CARE OF HORSES.—The *Valley Farmer* says:

"At this season, when horses are required to do their utmost, laboring constantly from early morning till late in the evening, they should have the kindest treatment and the best care and attention. A man who can't govern his passions, has no business with horses. It makes the heart ache to think how they are abused, whipped, pounded, jerked by the reins, and otherwise maltreated, merely because they do not know what the driver wants, or because, from their ill usage, they are afraid to do what is wanted of them. They should have a comfortable place to rest—plenty of dry bedding—and be well supplied with good, nutritious food. They should especially be well fed at night, when they have time to eat and digest their food. Oats is the best grain for horses; and when they are to be fed principally on corn, they should have oats at least once a day. Bran mash should also be given them two or three times a week to keep the bowels in a healthy condition. Wood ashes and salt, mixed together in equal parts and given to horses two or three times a week, will be found very beneficial to their health."

COLIC IN HORSES.—JNO. L. GREGG, of Missouri, says in the *Valley Farmer*:

"I can cure by the following receipt, any case of colic in horses in twenty minutes. Take 3 oz. tobacco, in small bits; 1 dr. red pepper; 1½ gal. boiling water; mix and simmer on coals ten minutes, or till the properties of the medicine are extracted. Administer by injection with ½ pint syringe. Repeat every minute till relieved. By this method I have cured more than fifty cases without a single failure. The horse is generally fit for use in one hour. The *modus operandi* of the medicine is this: Tobacco is a powerful relaxant—Capsicum a powerful stimulant. By the relaxation produced by the tobacco, free exit is given to the collection of wind or gas, and the circulation is equalized; the pepper prevents too great a relaxation.

KEEPING COWS' TAILS CLEAN.—The Rev. Mr. HOWARD, of the *Southern Cultivator*, in a humorous allusion to the fastidious care sometimes bestowed on farm stock in Europe, mentions a case of this kind which he saw "in a dairy farm near the village of Brock, in Holland":

"The cows' tails were tied at the ends to a cord which passed through a pully in the roof, and at the end of the cord was attached a weight. The consequence was, that whenever the cow's tail was at rest, it was straight up in the air—some fifty of them in this position presented a singular sight. When asking why this was done, we were seriously informed that it was to keep them clean."

THE "SOUTH AMERICAN" POTATO.—A correspondent of the *Ohio Farmer* says that a variety of potato called the *South American* was brought into Ohio some years ago from New Hampshire. JOSEPH MOSHIER planted three pecks and harvested 50 bushels. The next year he planted an acre and gathered 530 bushels! It is a "dark blue potato, and very white meated." In quality, it is equal or superior to the Bilboa, Pinkeye or Mercer, and yields "twice as well."

BEE ROBBERS.—The *Bee Journal* says: "When robbing bees attack a weak colony having a fertile queen, it is advisable to remove it from its stand to a dark chamber or cellar. Set an empty hive in its place, strew therein a handful or two of the stems and leaves of wormwood, and rub the front of the hive and the bottom board therewith. The assailants will soon forsake the spot, and the colony may be replaced on its stand on the evening of the following day."

PUT ELDER BUSHES IN THE PLUM TREES.—A correspondent of the *Michigan Farmer* states that elder bushes put among the branches of plum trees will drive away the curculio. He has seen it tried for three years with perfect success.

Hog Raising at the South.—The *Southern* (Ga.) *Cultivator* advocates the use of less pork and more mutton, and thinks the reason that the negroes do not relish the latter is that they never get any that is fat:

"They rejoice in grease. They do not relish lean meat of any kind. Give them beef and mutton as fat as the bacon they are accustomed to, and their objection to both will soon vanish.

"The excessive use of pork on our plantations is continually brought to the view of persons living within sight of any one of our great railroads. The droves of hogs transported by our railroads are enormous in number. The drain arising from this cause to the Cotton States is a serious evil. We speak of dependence upon the North—we are more hurtfully dependent on the West. If we buy Yankee notions, the Yankee buys our Cotton in return. The drover usually carries home the result of his sales in specie. He is, of all traders, the most economical. He spends nothing among us, except for his own food and the food of his stock until sold. It is an unmitigated drain. The evil is increased, from the fact that the purchase of this live stock indicates the certain impoverishment of our soil. *There is no certain, reliable and extended means of permanent improvement of land but by means of the manures of the domestic animals.* * * * * We should use less pork, but every pound that we do use, we should raise ourselves. Let no drover take your money for his pork—he makes you suffer twice—once in the price you pay, and secondly more seriously, as his land gets the benefit of the manure which should have been put on your own land. When corn is worth 75 cts. per bushel and pork is worth 6 cts. per lb., fattening hogs just about covers expenses. In those sections of country in which close agricultural calculations are made, it is considered that the manure of the hog is a sufficient profit to warrant fattening hogs at the above rates for corn and pork. On plantations, this material source of profit is usually lost, hogs being often fattened on a hill-side, at the foot of which is a branch which kindly removes, without labor to us, the whole of the manure of these animals. The planter who pursues this course is not, perhaps, making ten bushels of corn to the acre."

The Highways a test of Civilization.—Baron Liebig says that the civilization of a country is accurately measured by the amount of *soap* used by its inhabitants. The *Homestead* thinks the *condition of the roads* an equally good test. Our country would stand higher judged by the *soap* test, and we therefore prefer it. In a sparsely populated country we can not have as good roads as in the densely populated countries of Europe. We fear that the editor of the *Homestead*, by a stroke of his potent pen, has reduced us to a state of barbarism! Read what he says, however, as to the best method of improving our roads:

"The very first thing to do in road-mending, is to see to it that the road has both *surface* and *under-drainage*, not in the roadway only, but on both sides, to the full width of the highway. There never ought to be a deep ditch, but always a shallow and a *hard* one, where banks will never wash, and which will never carry much water. Generous underdrains of tile or stone should carry away the water received from surface drainage, and good tile drains should lie three feet below the centre of the road, while water unavoidably received into the highway from springs or brooks, or the inclination of the land, should be conveyed off in stoned surface ditches, or underground trunks, secure from frost damage. This should be done wherever it is needed, and it would require an outlay of money and labor, but we know that if the work were to be well done, the investment would pay an immense interest. Roads thus protected from water would not be good roads, but a place would be prepared where good roads could be made and kept in repair easily; and let alone, they would be vastly better than we now have."

Length of Mangel Wurzel Roots.—A correspondent of the *London Agricultural Gazette* says he has "measured the tap roots of several plants of mangel wurzel this year which exceeded *six feet* in length."

Experiment in Grass Culture.—An old agriculturist gives in the *London Mark Lane Express*, the following accidental experiment in grass culture: In laying down land to permanent grass, he found the first year's growth invariably the best; and that afterward the coarser grasses choked out the finer sorts. Many years ago his hired man mistook orders, and accidently plowed nearly half an acre in the wrong field. This was in the fall, and the land remained with the roots of the grasses thoroughly exposed to the atmosphere throughout the winter. In the spring it was carefully turned back and rolled. By this means the quality and quantity of the grass were so greatly improved that the exact line where the plow had gone might be easily seen for years afterward.

How Stock Choose their Pasture.—A correspondent of the *Ohio Cultivator* has three pastures nearly in a row: one faces the south, the middle one the east and west, and the other has a northern face. The middle one is a pasture in the woods. When stock is put in this woods pasture, they manifest great desire to get out of it, no matter how tempting the grass may look. They greatly prefer the sunny field. The north field has about an acre in woods in one corner, and about two acres that faces the south; the grass on those two acres is kept very short, while on the northern portions of the field it is quite plentiful.

Poplar Rails.—Joseph Roberts, of Ridgeway, Wisconsin, writes to the *Wisconsin Farmer:* "I can produce poplar rails, made in the month of April, in the year 1846, that are sound this day, free from rot, and better than any oak rail I have in my fence, made at the same date. The trees were felled after the leaf had come out, and in splitting the trees the bark came off, and every rail being free from bark, the timber seasoned at once—hence the durability."

Club-root in Cabbage.—A Jersey market-gardener says that in his section there are at least 200 acres annually under cabbage, embracing every variety of soil, and yet in every case they have the "club," if the cabbage plants are set out *two years in succession on the same land*, except on lands "impregnated with oyster shell; there we may plant successively for fifty years and never see it, and that, too, without any restriction about manure."

Influenza in Horses.—A veterinary surgeon, in the *Ohio Cultivator*, says his favorite and most successful tonic for this disease, is tincture of iron in two drm. doses, twice a day, oatmeal or cornmeal gruel with a little brandy, wine, or good rye whisky, say about three ounces to a quart of gruel, to be given twice a day; any mucilaginous drinks would be proper at any time of the day.

Sulphur for Potatoes.—A correspondent of the *Gardener's Chronicle* dusted his potato sets with sulphur, and found that it not only drove away slugs, worms and insects, but that the crop was entirely free from the disease, while others in the adjoining row, planted without sulphur, were "seriously damaged by disease."

Choked Cattle.—A correspondent of the *N. H. Journal of Agriculture* gives the following simple method of relieving choked cattle: *"Apply a little black pepper to the nose.* The sudden convulsion of the muscles ejects the obstruction, and the animal is relieved."

CANADIAN OATS IN ENGLAND.—A correspondent of the *Canadian Agriculturist* states that some oats sent ten years ago to Sussex county, England, have been much propagated there, and have been found not only to ripen a fortnight earlier than the English varieties, but also to weigh heavier per bushel; some samples weighing from 46 to 48 lbs. per bushel.

BEE-KEEPING.

THE keeping of honey-bees, as a matter of profit, has engaged the attention of the people of the United States, during the last twenty years, very considerably. The publication of several American treatises on the history, domestic economy, and general management of that insect has aided very materially to produce this result. However, it is still a matter of surprise why so few people keep bees, when the profits derived from them, if properly cared for, are large, taking the original expense into consideration. For instance, suppose that one pays $5 for a good family of bees in the spring of the year: the profits would be one or two swarms and from 10 to 50 lbs. of choice cap honey, worth in New York 20 cents per lb. Of course, the profits in some cases would be less than the above estimate, if the season should be very unfavorable. It might happen that no swarms would be thrown off, and that the parent stock would not store up any cap or surplus honey at all; but such cases are rare, and my estimate is based on what may be generally done.

It is true that the location—section of country—where bees are kept governs the profits in a great measure. If bees are kept where there is but little white clover, they can not possibly thrive as well and prove as profitable as where a profusion of that clover grows spontaneously, since there is no other source of honey in this country that may be considered a substitute for it.

When honey-bees are kept to a considerable extent, say from twenty stocks upward, the profits are not generally in the same ratio as a smaller number produce. This arises from the liability of the owner to pay less attention to each family than he would to a smaller number, to the weaker families being robbed by the stronger ones or neighboring bees, the attacks of the bee-moths, etc. Sometimes an apiarian of one or two years or more experience, imagines that he is upon the road to success, and he buys up his neighbors' bees, and counts on large gains with his thirty, fifty, or more, hives or stocks; but the season proves unfavorable, and many of his swarms, as well as his old stocks, are short of honey in August and September, and the bees being rendered desperate in view of starvation, commence robbing each other, and before their owner is aware of the mischief that is being done, half of his hives may become depopulated, or, what is equivalent to that, so weakened by the attacks of robbers as to have lost all courage of defence, which is generally considered the ruin of a family in such circumstances.

Again, a very severe, cold winter destroys one-half or more of one's apiary, where he did not suppose that he was liable to lose any, unless it was some very weak family; and he begins to think bee-keeping is not such a profitable business after all, and he accepts the first offer made for his bees and goes out of the business in disgust. Hundreds of people do thus abandon the keeping of honey-bees, simply because some wholesale reverse has come upon them, which might have been prevented had they had more experience in the business.

It does, indeed, require great experience to manage honey-bees with success; and, as I have devoted twenty-five years to a close study of their habits, I think I am capable of giving the public—at least the uninitiated—some insight into this business; and, with the permission of friend HARRIS, I hope to lay before the readers of the *Genesee Farmer*, during the present year, some rules of management and other matters pertaining to that insect that will not be void of interest.

To those who have never kept bees, I shall endeavor to unfold all the principal difficulties, so that the business shall be rendered to them both safe and profitable. But let no man suppose that he can keep bees, and receive the full profits that they are capable of affording, without care and labor on his part. It will not be hard labor, but it must be a watchfulness that seldom flags.

Reader, do you keep bees? If so, have you cleaned off the accumulated matter that gathered upon their stands during the past winter? Have you turned over each hive to see if any of the combs are mouldy, and if any dead bees are wedged in between the combs? Have you ascertained whether any of your stocks require feeding? All of these things require attention in April, and if not done then, early in May.

You will, undoubtedly, see an occasional moth-worm this month endeavoring to escape from your hives, to find some convenient place to wind themselves up into cocoons. Let not this alarm you, for such things occur in all apiaries to some extent. Kill all you see, of course, but do not spend much time in setting "traps" to catch these worms. A piece or two of split elder, with the pith removed, laid upon the stands will afford a harbor for all that discover the entrance to them. They will also gather under the edges of the hives, and by raising up the hives occasionally, the worms may be killed. The real danger from the bee-moth is when the winged insects—the millers—issue from the cocoons made by the worms. July and August are the months when these millers are dangerous, and when they should be attended to.

If your hives are so constructed that supers or caps are to be placed upon them, to receive the surplus honey, you should place these caps in position as soon as the apple trees are in full bloom, or earlier if you choose to do so; and if you will take the trouble to attach a small piece of honey-comb—as new and as white as you have—to the top of each cap, in one corner, the bees will commence storing up honey in them sooner than they would if no comb was there. They are a decoy; the bees cluster around these pieces, and as soon as any honey can be gathered they will begin to enlarge them if the family of bees is sufficiently populous to enable them to do so.

If the bees do not enter the supers as soon as you think they ought to, it will be because they have not a sufficient population yet to enable them to spare enough of the family to build combs in them. They know better than you do when it is time to store up honey in supers, and you may depend that they will not omit to work in these boxes if they can spare the population to do it, unless there is something decidedly wrong in the applying of them, or the communications with the main hive.

Clinton, N. Y. T. B. MINER.

CULTIVATION OF TOBACCO* IN NEW YORK.

Last month, at the request of a correspondent, we gave some directions for raising tobacco plants. In continuation of the subject, we now make some extracts from George Geddes' survey of Onondaga county, published in the last volume of Transactions of the N. Y. State Agricultural Society, in which there is a very full and excellent report of the culture of tobacco in that county.

The cultivation of tobacco was commenced in Onondaga county in 1845, by C. Morris and N. Grimes, who hired a man from Connecticut to attend to it. The census of 1855 showed that the preceding year, 471¼ acres were occupied by this crop, yielding 554,987 lbs., or an average of 1,178 lbs. per acre. The value of the crop in 1859 was estimated at $150,000.

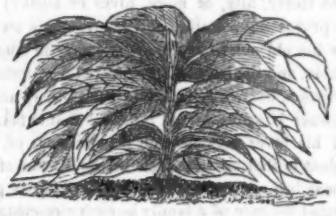
THE PLANT AND ROOT AS SHOULD BE SET.

Of the manner of raising the plants we spoke last month.—The following remarks on the after-culture and management of the crop, are from Mr. Geddes and from Mr. Clark of Marcellus.

"When the plants are three inches high they are large enough to set. To prepare the land, the manure should be applied as early as the ground is dry enough to plow. The last of May plow and harrow again, so as to mix the manure well with the soil. Mark the land one way for rows, three feet four inches. Make hills by hauling up a few hoes full of dirt, and press it well with the hoe. In taking the plants from the bed take care to keep the roots wet. Unless the ground is quite damp, put a pint of water on each hill half an hour before setting. Make a hole, put in the root, and press the dirt close to it, all the way to the lower end. If any plant does not live, take care to set another. Unless the earth is wet, or at least moist, water the plants soon after setting as may be necessary. In about one week cultivate and hoe. In ten or fourteen days repeat the operation, and continue to cultivate so as to keep the weeds down. The tobacco worms may appear about the second hoeing; *kill them as fast as they show themselves.* When the blossoms appear, break off the stalk, leaving about fifteen leaves, taking off about seven leaves.

PLANT AS SET IN THE HILL.

A PLANT READY TO TOP, PLACE FOR TOPPING INDICATED BY *b*.

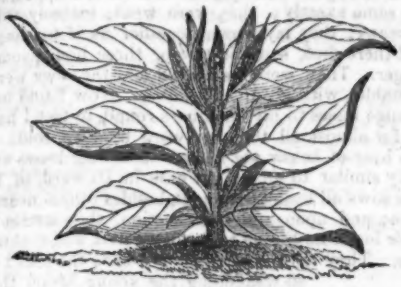


PLANT AFTER TOPPING.

After topping, break off all the suckers. In about another week, go over again, breaking off suckers and killing worms. In another week repeat the operation.

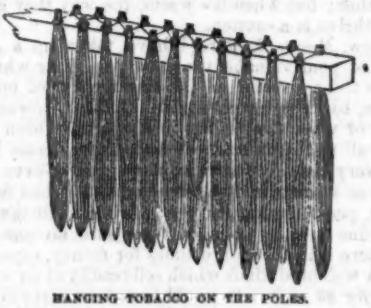
* The botanical name of tobacco is *Nicotiana.* It was named after John Nicot, embassador from France and Portugal, in 1560, "who," says Torrey, "introduced the abominable weed into Europe."

By this time the crop is ready to begin the harvest. This may be known by the suckers which start at every leaf, and when they have all appeared down to the lower leaf, the plant is ready to cut, every sucker having been removed as it appeared. The stalks are cut at the root. In a warm day cut in the morning and evening. In the middle of a hot day, the leaves will burn before they are wilted. The best way is to cut in the afternoon, and lay on the ground to wilt. This wilting forwards the process of curing, and so toughens the plant as to make it practicable to hang it without much loss in breaking leaves.



PLANT WITH THE SUCKERS GROWING.

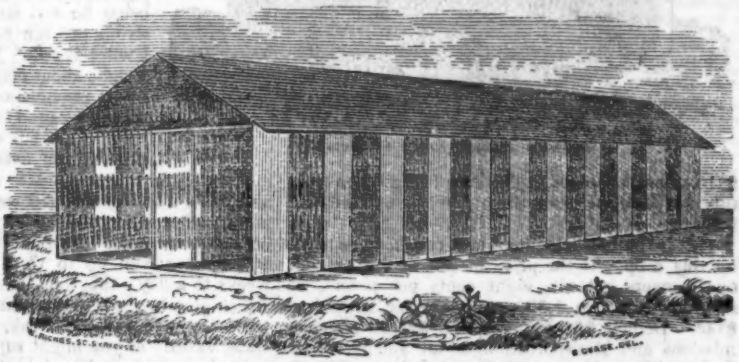
After wilting draw to the house, which should be twenty-four feet wide, fifteen feet high, so as to have three tiers, one above the other. A building of this width and height, thirty-five feet long, will store an acre, or one ton of tobacco. The girts on the side of the building should be five feet apart; a row of posts through the middle is necessary to put girts in, to hold the poles that the plants are tied to. The best poles are made of basswood sawed one and one-half by four inches, and twelve feet long.



HANGING TOBACCO ON THE POLES.

The plants are handed to a man who, standing on a moveable platform made by a light plank, receives them, and beginning at the top tier he winds a piece of prepared twine around a stalk, fastening the first plant to the pole; the second plant is placed on the other side of the pole, and a single turn is made around the stalk; then again the third stalk is put on the same side of the first, the twine passed around, and the next on the other side, and so on to the end of the pole, where the twine is made fast. About thirty or thirty-six are hung on a pole, one-half on each side. If this twine gives way, it is manifest that they will all be let loose. The poles are put on the girts about fourteen inches apart. In this way the whole building is filled.

Skill is now demanded to regulate the ventilation until the crop is cured, which is determined by examining the stem in the leaf, which should be hard up to the main stalk. Then in damp weather the tobacco can be taken down and laid in piles, with the tips together to keep it from drying, and to secure this, cover over with boards. The next thing is the removal of the leaves from the stalks, taking this time to separate the broken leaves from the unbroken ones. They are then made into parcels of 16 or 18, called "hands," and are fastened by winding a leaf around them. Pile these hands tips on tips, the square ends out. This preserves the moisture. The pile should be kept covered with boards, and the sides also covered, leaving the wound end of the hands exposed to the air. If everything up to this point has been skilfully done, in four or five days the tobacco will be fit to pack in cases, and take to market. The cases should be of pine, two feet six inches square, by three feet eight inches, and of inch lumber. Place the hands tips on tips, and the wound ends against the ends of the box, press with a lever or screw until 400 pounds is in, then fasten on the top. The tobacco now goes through the sweating process, and will lose about ten per cent. in weight before fit for use.



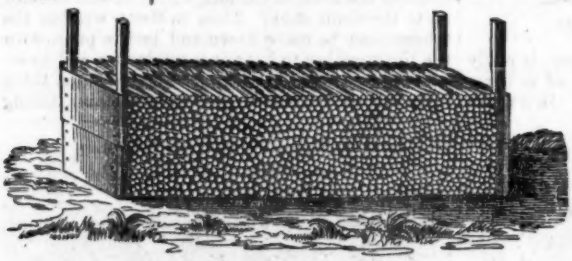
TOBACCO HOUSE, WITHOUT SIDE DOORS, END BOARDING, AND END DOORS, TO SHOW THE MANNER OF HANGING THE TOBACCO.

This tobacco is known in the market as "seed leaf," and is principally used for wrappers for cigars; the refuse is exported. A crop handled in the manner described, and with skill, will sell in New York city, at from twelve to fifteen cents a pound; but from want of proper care and skill, the crop of this county does not bring an average price of more than eight cents.

COST OF CROP.

The plants are worth per acre,	$2 50
Manure, 10 cords, say	20 00
Fitting ground and marking,	4 50
Planting and setting,	5 00
Cultivating and first hoeing,	2 00
do second hoeing,	1 50
Topping, and killing worms, say	1 00
Suckering, first and second times,	2 00
do third time,	4 00
Harvesting and hanging (four men and team one day),	6 00
Stripping one ton,	10 00
Five packing boxes,	5 00
Labor of packing,	1 50
Twine, for hanging,	1 00
	$66 00

A ton, at 13½ cents, is worth $270; deduct 10 per cent for shrinkage, and 1½ cents per pound for transportation and commissions, in all $52, leaves



TOBACCO STACKED AFTER STRIPPING.

$218 as net proceeds. The cost being taken from this, $66, and we have $152 for use of land and buildings.

This is the best statement that can fairly be made for this crop. If the price be put at the average our growers get, viz., eight cents per pound, we have for the crop, 1,800 pounds, after shrinking, $144. Deduct $66 for cost, and $22.50 for commissions and transportation, in all $88.50, which deducted from the amount received, leaves $55.50, as the ordinary profit per acre.

OATS FOR SWINE.

Editors of Genesee Farmer:—Although I have taken in your paper constantly since 1842, and have them now all bound and ready for reference, yet I have never met with any remarks upon feeding oats to swine; therefore I crave some space for a few remarks upon the subject, so that my brother farmers who are not yet aware of the pernicious effects of this grain on pigs, may be made so in time, through the losses sustained by myself and several neighbors this season. During the month of August last, our section of country was visited by a tremendous hail-storm, which cut and ripped the blades of the corn so badly as to check its growth, and large quantities never became glazed or ripe; in consequence it was not fit to grind for hog feed, so that many of us who believe in chopped food, took for a change oats and peas—eight of oats to four of peas. Well, this made an elegant mess, when boiled up with pumpkins, but mark the sequel.

I had three valuable sows to pig this spring, one Yorkshire large, one Berkshire small, and one good common sow. I fed them all with the above described food along with my store pigs, and last month they all pigged in due time and all the pigs (13 from one, 5 from another, 7 from another,) died immediately after dropping, except five or six dead when dropped. The pigs from each sow appeared the same exactly; they were weak, scarcely able to crawl; they lay down together as if to sleep, and there died, some in two or three hours, some longer. They were well cared for, the sows were in stables, with good dry bedding. Now I told my strange losses to my neighbors round, in fact I had to, for almost all the pigs were bespoke, sold. I can hear of heavy pig jobbers sustaining losses exactly similar to mine: one case in Howard, of 11 fine sows all losing their pigs, besides others nearer here; and upon mature reflection, they attribute their losses and mine to the oaten feed, and nothing else. They tell me oats and rye have the effect of so weakening the young brood that they always die off, as I have described.

And now you will say, how will you convince us that your loss of pigs was not occasioned by the sows being far too fat and lazy to have strong or even healthy pigs? Why, I will tell you. My large sow, which weighs about 500 lbs., has had three litters previous to this spring, and always has raised 10 and 12 fine healthy pigs. Last fall she raised 12 as fine pigs as you ever saw, and was fed moderately on peas and water while carrying them, and while nursing was fed well up. She is never in any other than good healthy order; I don't believe in poor sows. And another thing is, the sow was always well up to time before this, sixteen weeks to a day; this time she went five days over, which goes to show that the uterus and its contents were in an enervated, weak, low, lifeless kind of state, exactly as you might suppose a very fat, lazy animal might be. But I have seen this kind too, and the only difference I saw worth notice was, that the progeny was small and thin, but always lively and healthy, and gained amazingly fast upon their fat mamma. It is very true that the pigs from a very fat sow have very thin skins, and therefore do not get along so well in cold weather as in mild weather; but when it's warm, the way they grow and thrive is a caution.

Now, Messrs. Editors, I have taken up a good deal of your valuable time and paper, for which I hope to be excused, as the case is really of importance, to know when we are working towards a loss, or when for profit; and as I have been told that all the circumstances and entire losses have in every case accompanied the entire or even partial oat feeding, and the same animals when fed on corn, peas, potatoes or beans, bring forth invariably fine healthy progeny, I am sure no one will venture it in these hard times for money, especially with well bred kinds which sell readily at six weeks old, for $4 each. It would have been sixty dollars in my way, and more with some I know of, if we had met with such a warning as this six months ago.

Raleigh, C. W. C. WOOD.

To Keep Ants from Bee Hives.—A correspondent recommends to set the bee bench legs in dishes of water. A better way is to put a little tar on the bench legs. D.

SPRING WHEAT IN WISCONSIN.

We are indebted to Mr. C. L. Gould for a report of the discussions at the last meeting of the Sheboygan County (Wis.) Farmers' Club. Subject: "What are the most profitable kinds of spring wheat for the farmers of Sheboygan county to raise?"

Mr. Vanwie said the Hedge Row, which was once a valuable wheat with us, has run out, and the Canada Club has proved inferior for three years past. Thinks the Fife is the most profitable for several reasons. It is not so liable to smut—does not lodge—and may be sown on rich, flat land and succeed well.

Mr. Ross raises the Fife. The straw is always bright—has not known it to rust.

Mr. Humphrey has had better yields from the Club than from the Fife, but thinks the Fife is more sure.

Mr. Parish, in the year 1859, sowed four bushels of Fife wheat, from which he harvested 105 bushels, and seven bushels of Club, from which he harvested 63 bushels. The past season he did not see any difference in the yield of the two kinds.

Mr. Gould, in the year 1859, sowed nearly two bushels of Fife, from which he obtained 42 bushels, and about the same quantity of Club, from which he harvested 20 bushels. Both kinds were sown the same day and in the same field. He raised some Rio Grand the past season, which weighed 64 lbs. to the bushel and yielded well.

Mr. Whiting has traveled in twenty-nine counties in this State the past winter, and finds that the Fife has, in almost all cases, yielded more than the Club.

Of the members present, twelve will sow the Fife wheat this spring, four will sow the Fife and Club, and five will sow the Fife and Rio Grande.

The following remarks were made in regard to smut in wheat:

Mr. Gerrels has been so unfortunate as to raise considerable smut the past season, and has been investigating the subject. He has examined the smut with a microscope, and finds that each particle contains the egg of an insect. Thinks these particles of smut or eggs adhere to and are sown with the wheat, and in the end cause the crop to be smutty. Thinks that anything that will destroy the vitality of the eggs will tend to prevent smut.

Mr. Vanwie allows his wheat intended for seed to stand till thoroughly ripe before cutting, and has never raised any smut till the last year.

Mr. Mayber never sows wheat when the ground is wet. Sows the seed dry. Has not been troubled with smut.

Mr. Parish thinks the wheat must be thoroughly ripe to be perfect seed.

There can be no doubt that wheat intended for seed should be allowed to get perfectly ripe. Wheat cut somewhat before it is quite ripe, gives a heavier berry with less bran, and a better quality of flour, but for seed we need a fully matured berry; the covering of bran is essential, and it may be that seed wheat cut before it is ripe is more liable to smut. The remarks of Mr. Gerrels are correct, except that he has mistaken the spores of the fungus for the eggs of an insect. As Mr. G. says, these spores adhere to the seed, and the sap of the plant becomes impregnated with the fungus. It has been ascertained by actual trial that smut may be produced at pleasure simply by rubbing the seed with spores.

No farmer, however, need suffer any loss from smut. Nothing is easier than to destroy it by pickling the wheat before it is sown. The most popular remedy in England is to moisten the seed with old chamber-lye, or the drainage of the barn-yard, and then to dry it with quick lime. The spores of the fungus contain a considerable quantity of oil, and the ammonia of the liquid and the lime attack this oil, forming a kind of soap, and destroying the vitality of the smut. An equally effective remedy is to wash the seed wheat with a solution of blue vitrol (sulphate of copper). For each bushel of seed, dissolve three or four ounces of blue vitrol in about one quart of hot water. Spread the wheat out on a floor, about six inches thick and, when cool, sprinkle the solution equally over it, and then mix thoroughly with shovels, till every grain is moistened. Old wheat will require a little more water. The seed will be ready to sow in two or three hours, though it is better to allow it to remain a day or two before sowing. When treated in this way, lime should not be used, as it will decompose the sulphate of copper and do harm rather than good.

ROOT CULTURE IN MASSACHUSETTS.

At one of the late Agricultural Meetings in Boston, the subject of root culture was discussed. We make a few extracts from the report of the *Boston Cultivator:*

The Chairman regarded the subject before the meeting as important, but thought that recommendations of root-culture had sometimes been too indiscriminate. Although it may be of such importance in England that, as Mr. Webster had said, its failure would cause the Bank of England to suspend specie payments, it does not follow that it is of equal importance here. The moist and equable climate of that country was peculiarly favorable to the root crop, but Indian corn, which is of so much value to our farmers, can not be grown there. Still roots could be advantageously cultivated here to a greater or less extent, according to the particular circumstances of the farmer. They were regarded in England as very useful in preparing the land for other crops, and they would probably produce a similar effect here, though an exception should be made in regard to Indian corn, which did not succeed well after turnips—especially after ruta-baga. He could not explain the cause. Roots are valuable for stock as a change of food. For horses not worked too hard, 100 bushels of oats and 100 bushels of carrots are of as much value as 200 bushels of oats; not that there was as much nutriment in the carrots as in an equal quantity of oats, but the medicinal properties of the roots produce an effect which renders them of equal value. The long orange variety of carrot is on the whole best for field culture. The white Belgian may yield more, but it is less nutritive. The carrot is the best of all roots for horses, but mangel wurzel will probably produce most milk. Of the latter, Mr. Birnie, of Springfield, obtained last year from two and a half acres of land, 95 tons, or 38 tons per acre. The cost of the crop was $206.95; equal to six and a half cents per bushel of 60 lbs. The Swedish turnip or ruta-baga stands next to the mangel wurzel as to bulk of crop. It is less nutritive than the carrot, but probably more nutritive than the mangel wurzel, though it might not make a greater quantity of milk, and is better for feeding growing or fatting stock. The sugar beet is more nutritive than the mangel wurzel, and is easily grown.

Mr. Hartwell thought root crops were of importance in this country. Even the corn crop, which is of great value, frequently fails to mature in some parts of the State. Grass is the main object with farmers in the interior of the State; they can apply all their manure advantageously to this crop. He would like to know whether in such cases, roots can be made an economical crop, or whether they are of sufficient importance to warrant the diversion of a part of the manure from the grass land.

Mr. White, of Petersham, said root-culture was on the increase in his neighborhood. For dairy husbandy, it is important. Farmers in the section where he lived had good hay, but those who had raised roots thought cattle would do better with poor hay and roots than with good hay alone. The ruta-baga is the root chiefly cultivated; mangel wurzel and the sugar beet are grown to some extent. He would like to know if one kind of root would follow another as a crop advantageously.

The Chairman replied that in general deep or tap-rooted crops should follow surface-rooted crops, and *vice versa*. The tap-rooted plants bring up the soluble matter from the subsoil.

Mr. Procror, of South Danvers, thought no good reason had been or could be assigned why root crops might not be grown profitably. In Essex county, carrots are considered one of the best crops that can be grown. From 20 to 40 tons per acre are obtained, and they are worth at the farm from $8 to $10 per ton. It is as certain a crop as any other, and prepares the land for the onion crop, which, prior to the appearance of the onion maggot, was very profitable. Turnips, beets, potatoes and cabbages, are extensively grown in Essex county. A net yearly income of from $100 to $200 per acre can be realized from root crops. In the town to which he belonged, more than fifty men could bear testimony to these facts from their own experience. The profits from a root crop are often more than four times as much as could be obtained from grass, and greatly beyond what could be had from Indian corn at 75 to 80 bushels per acre.

Mr. Sueldon, of Wilmington, thought potatoes were of more importance than is generally allowed. They are almost indispensable as human food, and before the rot came among them they were of great value in making beef and pork. They are good for milch cows. Grass of good quality in abundance will make the greatest quantity of butter, but potatoes will produce that of better flavor than can be obtained from any other article. A bullock fatted on potatoes will weigh heavier in proportion to bulk than one fattened on anything else. But of late years the crop has been so affected by disease that the price has become so high near the large markets, that we can not afford to feed potatoes to stock. Still with him it had been a profitable crop. He had great success last year in raising ruta-bagas on blowing sand. He furrowed out the ground, put in raw manure from the barn-yard, covered it over, sowed the seed, and laid birch limbs on the ground to keep it still. The crop was large and of fine quality.

Progressed Phosphates.—Mr. Mapes still keeps harping about "progressive ultimates," ignoring the facts which have been repeatedly brought forward in opposition to his most absurd doctrine. His favorite assertion is, that superphosphate made from mineral phosphate is of no use, because the phosphate has never been "progressed." We have adduced the results of actual experiments, which showed conclusively that superphosphate made from mineral (unprogressed) phosphate was just as good as that made from calcined bones. And in the last number of the Journal of the Royal Agricultural Society, Dr. Augustus Voelcker, chemist to the Society, says, "soluble phosphate of lime made from coprolites [unprogressed] is in every respect as good as soluble phosphate made from bone." Thousands of tons of it are used every year in England, and have been for ten or fifteen years, and its use is yearly on the increase. This does not look as if it was worthless.

Rats.—A correspondent in Pennsylvania says he has kept rats out of a cellar, where they were formerly very troublesome, by digging up the ground in the cellar along the wall, 15 or 18 inches deep, and putting down slates close to the wall, and filling the soil in again and pounding it down tight.

Ants.—Mr. Henry Lander, of Bath, Pa., says he has found that camphor dissolved in whiskey and sprinkled on the places they frequent, will drive away ants.

THE CHINESE SUGAR CANE.

The *New York Tribune* has an interesting article on the Chinese and African sugar canes. They have now been on trial in this country for five years. It is not surprising that farmers were misled by French writers into the expectation that good sugar might be made from Maine to Oregon, with about as little trouble as cider!

Tested by the saccharometer, the juice of sorghum showed a richness as good as 10° Beaumé, equal to about seventeen per cent. of sugar, which is much higher than the average of the tropical cane. The stalks, when full ripe, were fairly bursting with excess of juice, and the facility for its extraction by pressure between common wooden rollers was so great, that it was calculated that at least a ton of good fair sugar could be grown to the acre. Every one went crazy over the golden prospect, and the strife to obtain seed at two or three dollars per pound was very great. In the height of excitement Mr. Leonard Wray, a sugar planter from Africa, came to this country at the invitation of Gov. Hammond, of South Carolina, to introduce the imphee, which he had discovered in Caffraria. More than one hundred acres of seed were planted, a train of large kettles and a powerful engine and mill were erected at an expense of several thousand dollars, and the country awaited with much anxiety the result of the experiment. So far as the production of sugar was concerned, it was a perfect failure, but Gov. Hammond made several thousand gallons of good syrup, and fed about a thousand cattle and hogs on the surplus cane. Mr. Wray, despite his patented process, and the copper apparatus which he imported from Belgium, made a complete and most mortifying failure; and every one supposed sorghum and imphee useless as sugar plants. We should not say every one, for Mr. Joseph S. Lovering, of Philadelphia, an opulent sugar refiner, had faith enough to give the Chinese cane a fair trial before rejecting it. His experiments were properly and patiently conducted, and resulted in a splendid success—for within a week he produced specimens of brown and white sugars as good in every respect as could be made from the *saccharum officinarum*, or common sugar cane. It seems that Mr. Wray, Mr. Peters, Gov. Hammond, and the other thousand experimenters, had overlooked the presence of a glutinous substance in the juice, which effectually prevented the separation of cubic crystals, and which, of course, had first to be removed before success could be expected. Mr. Lovering had only a small spot of ground in sorghum, but it was sufficient for him to prove in the most triumphant manner the saccharine properties of the new canes. In a little pamphlet which he was induced to publish at the time, he computed the average yield of sorghum sugar as follows:

	Sugar, lb.	Molasses, lb.
Actual yield, as per experiment	1,221,85	74.89
Add for inefficiency of mill.....10 per cent.		
For heating and reheating..... 5 per cent.		
For "footings"..... 5 per cent.		
Total .....20 per cent.	244.37	
Probable yield per acre	1,466.22	74.89

But Mr. LOVERING's canes yielded only 1,847 gallons of juice to the acre, while not unfrequently double that quantity has been measured. So that it will be seen his calculations, to say the least, fall within the mark of the productiveness of sorghum.

This all looks very well upon paper, and if it looked well only there we should not think it worth our while to reprint Mr. LOVERING's calculations. Since 1857 many thousand fields of both sorghum and imphee have been planted, and many thousand barrels of molasses made. The cultivation seems now to have mainly settled in those parts of the Northwest, where there is abundance of wood to be had for feeding the fire under the syrup kettles, and where the autumnal frosts do not come too soon. We constantly see in our exchanges the statement of farmers who have made good syrup at paying prices, and occasionally accounts of a good article of sugar having been made from both varieties of the new cane. The notices of failures have been much fewer of late, and less last year than they were in 1858 and 1859.

The *Tribune* thinks that we should rather aim to produce good syrup than risk the uncertainties of sugar making. The former can be made with little or no trouble, while the latter demands the skill and appliances of the refiner.

ITEMS OF AGRICULTURAL EXPERIENCE—No. III.

29. THE periodical application of a mixture of gypsum and wood ashes, as a top dressing to grass fields, not only increases the yield of grass, but helps to keep up the supply of inorganic matter in the soil, necessary to the formation of plant food for cereal and other crops.

30. Gypsum is most valuable when applied to clover on light soils, and is supposed not to have a tendency to impoverish the soil; yet the beneficial effects derived from its application cease when the soil becomes overdosed by applying it too often successively, or in too large a quantity.

31. Gypsum should not be applied too early to clover; the best time is when the clover is well leaved out and nearly covers the ground.

32. Ground intended for roots should always be subsoiled or very deeply plowed the previous autumn, and be thoroughly cultivated and pulverized in the spring before the seed is sown.

33. Mangels, beets and carrots do best when sown in level drills, turnips and ruta bagas on raised or ribbed drills.

34. For turnips and bagas, it will be found more profitable to apply the manure under the drills on which the plants are to grow, than to scatter it through the soil to assist the weeds.

35. No man who wishes to have a sure crop of roots should be sparing with his manure or seed. To make sure against the fly, sow not less than three pounds of turnip or baga seed per acre.

36. The ruta baga (or purple top Swede turnip,) is always more to be depended on, in our dry climate, than the white or English turnip, and is also much easier to preserve through our long winters. For feeding milch cows in the fall and early part of winter, the white turnip is the best.

37. Milch cows should have, at all times during the season, the best pasture the farm affords, if the production of butter and cheese be any object, and are better kept separate from other stock.

38. Stock should have free access to water at all times, and if they cannot, they should be watered twice a day at least.

39. Shade trees in a field look well, but are of no real benefit.

40. Working horses are best kept stabled till after haying time, even if it should be necessary to cut fresh grass for them at every meal.

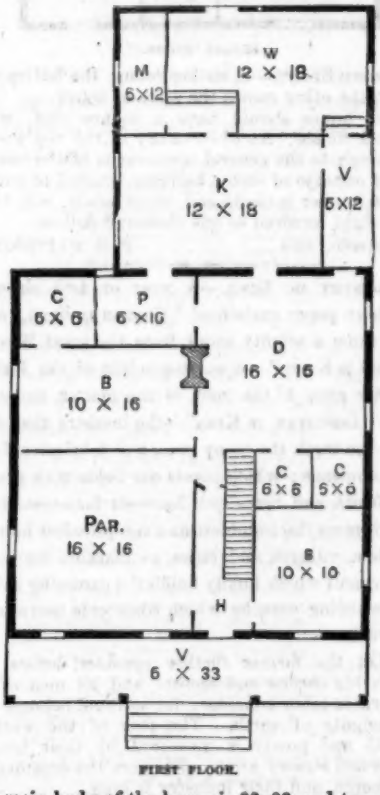
41. Sheep must have salt occasionally during the time they are at grass, if they are wanted to thrive well.

42. The man who keeps his fences bull strong, pig tight, and horse high, need neither keep his neighbors' live stock, nor fear his own.

Hamilton, C. W. J. MACKELCAN, Jr.

GROUND PLAN FOR A FARM HOUSE.

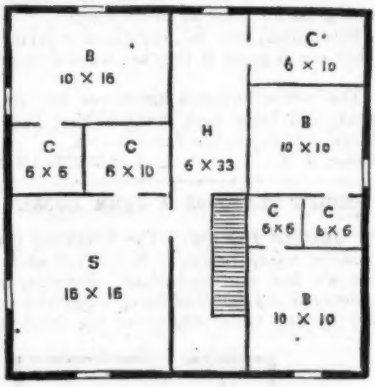
EDS. GENESEE FARMER:—The following plan is designed for a farm house, to be built of such material as will best suit the builder. For simplicity, convenience, and amount of room, I consider it unrivalled by any other design of the same area.



FIRST FLOOR.

The main body of the house is 33x33, and two stories high, with a cellar under the same, the stairs leading to it being situated under the main staircase. The back part, or wing, is 24x24, one story high.

H, hall; Par., parlor; D, dining room; B, bedrooms; P, pantry; C, closets; K, kitchen; W, wood house; M, meal room; V, veranda. If a smaller house than this should be desirable, the wing may be left off. That portion occupied by B and C, on the opposite side of the hall from the parlor, will make a dining room 10x16, the present dining room may be used for kitchen, and a portion of the cellar for wood.



SECOND FLOOR.

SECOND STORY.—S, sitting room; the letters apply to the other rooms the same as below.

This house should have a square roof, with bracket finish. An observatory at the top would add much to the general appearance of the house.

The expense of such a building, erected of wood, where lumber is cheap and stone handy, will vary from eight hundred to one thousand dollars.

Midd'eville, Mich. F. M. MATTESON.

INDUSTRY IS KING.—A year or two since a Southern paper exclaimed "COTTON IS KING," and then came a mighty shout from the great West—"CORN IS KING." A correspondent of the *Valley Farmer* goes to the root of the matter, and says that "INDUSTRY IS KING"—the industry that digs from the earth the many ores, and fabricates them for commence; which plants our fields with grains and fruits, and reaps rich harvests for commerce; which rears the humblest and the proudest homes, hamlets, villages, and cities, as markets for commerce, and which finally builds the careering ships, and whirling cars, by which commerce moves and thrives:

"Let the farmer further consider, before he yields his throne and sceptre, and let men of all honorable labor consider; for to them belongs the sovereignty of earth. The sum of the world's wealth and power is measured by their brown hands and sinewy arms. *They* are the creators of commerce, and *their* industry is king.

"'The noblest men I know on earth
Are men whose hands are brown with toil;
Who, boasting no ancestral birth,
Hew down the woods and dig the soil,
And win thereby a prouder name
Than follows kings' or warriors' fame.'"

TO MAKE CORN GROW RAPIDLY.—To three gallons of corn take one quart of good soap, mix well with a stick prepared for the purpose. If the soap is strong and ropy, a little water may be added when mixing. Now add plaster, still working your corn, till every grain is by itself, then plant. This may be done in a two bushel tub. Good plowing is to the point. Harrow your corn land three, four or five times; it will pay when you come to work it. Try the above, and report through the *Farmer*. S. WOLF.

Venango Co., Pa.

A GOOD CROP OF OATS.—W. J. HALLOWELL, of Horsham, Pa., raised last year, on a field of 14 acres and 20 perches, 1,090 bushels of oats, weighing 34 lbs. per bushel; being 76¾ bushels per acre. This statement we find in the *Germantown Telegraph*, and it is undoubtedly true. We have heard of larger crops, on a single acre or so, but do not recollect a higher yield on so large a scale.

KERRY CATTLE.

THE *London Farmer's Magazine* for March contains a beautiful steel engraving of a Kerry bull recently exported to the Cape of Good Hope. We have had this portrait engraved for the *Genesee Farmer*. SANFORD HOWARD, Esq., editor of the *Boston Cultivator*, recommended this breed some years since, as eminently worthy a trial in the mountainous regions of this country. In an Essay on Cattle Breeding written for the Transactions of the Norfolk (Mass.) Agricultural Society, Mr. HOWARD says:

"The Kerry breed belongs to the county of that name in Ireland, or more especially to the mountainous portion of that county, where they have probably existed coeval with the present race of human inhabitants. They are very different from the cattle which occupy the lower and more fertile sections of the island—the latter belonging to the Long-horn tribe, of large size, the horns drooping, sometimes crossing each other beneath the lower jaw. The Kerries, on the other hand, are small, with horns of medium length, rising, and generally somewhat spreading. The color ranges from black to brindled and red, sometimes with a little white, but black is the prevailing color, and is preferred as denoting the nearest affinity with the original type. The Kerry cow has always been considered remarkable as a milker. YOUATT says she is 'emphatically the poor man's cow; hardy, living everywhere, yielding for her size abundance of milk of good quality.' MILBURN says: 'She is a treasure to the cottage farmer—so hardy that she will live where other cattle starve. She is a perfect machine for converting the coarsest cattle food into rich and nutritious milk and butter.'

"In 1858, and also in 1859, I visited the native country of the Kerry cattle, chiefly for the purpose of learning their characteristics, and purchasing some to send to America. I found the cattle somewhat smaller than I had supposed them to be, but evidently very useful in that locality—living where

no other dairy cattle that I have ever seen could live. In several instances they were met with at elevations of two thousand feet or more above the sea, sharing with the goat the wild herbage of the mountain's side. As illustrating ther hardiness, the following incident is given: A man led me up a mountain glen to see a lot of three-year-old heifers he had grazing there. It appeared a mystery to me how the cattle could get round and over the rough rocks, and obtain a subsistence, even in summer. Having noticed that the man had several stacks of hay down in the valley, where was the rude habitation which he called his home, I asked him if he was going to take the Kerry cattle there for the winter. He replied, "No, the hay is for the lowland cattle and ponies." He had just been telling of the deep snows which sometimes fall in the mountains, and I asked what the cattle would do in such cases. He said, 'The snow generally softens after a day or two, and the cattle can *work through it*.'

"It is difficult to estimate the weight of these cattle, compared with others, from what I have seen of them. They are generally large-bodied in proportion to their height, their legs being short and the shank-bones very small. Their heads are generally handsome, and the countenance lively, but with a mild expression. The best of them are decidedly attractive in their appearance. When taken to the low country and supplied with plenty of nutritious food, they become more bulky, but I had no opportunity to see what would be the effect of breeding them for several generations in a milder climate and on a better soil.

"I could not generally obtain reliable statements in regard to the yield of milk or butter of these cows. In several instances where they were kept in the low country, it was stated that they would give, per day, ten imperial quarts of milk, which would afford a pound of butter—certainly a large product, considering the size of the animal. It is stated that Mr. Crosby, of Ardfert Abbey, near Tralee, obtained in his herd, ranging for seven years in succession from twenty-eight to eighty cows, mostly Kerries, an average of 1,952 quarts of milk in a year, which yielded a pound of butter to eight quarts, or 244 pounds per cow annually, and that one pure Kerry cow in the herd gave 2,725 quarts of milk in ten months.

"I purchased for Arthur W. Austin, Esq., collector of the port of Boston, five two-year-old Kerry heifers, and a bull of the same breed, which arrived here, after a very long and boisterous passage, in November last. The bull, however, was so much exhausted that he died a few days after his arrival. The others are at Mr. Austin's farm in West Roxbury, and are doing well. Another Kerry bull has been ordered for Mr. Austin, which it is hoped will reach here in June next [this bull has since arrived], so that through Mr. A.'s exertions it is believed the breed will be fairly introduced, and subject to such thorough trials as will settle the question in regard to its usefulness here.

"I may mention in this connection, that I also sent to Mr. Austin a three-year-old heifer, bred in one of the Shetland islands. This breed is noted for its hardihood, fine quality ot beef, and rich milk —the latter afforded in moderate quantities. It is somewhat larger than the Kerry, but not so large as the Kyloe or West Highland, and is quite distinct in character from either—having short horns, a deep and rather narrow body, and a coat like soft wool. The breed probably came originally from Norway, as the Shetland islands were formerly possessed by that kingdom."

Mr. HOWARD states that the modern beef making Short-horns have, of late years, been extensively introduced into Ireland, but this intrusion is regarded with little favor by the small farmers and cottagers, with whom butter making is an important object. As an illustration of the light in which some of this class view the change alluded to, we may refer to "A Lament for the Old Irish Cow, by KITTY CONNOR," lately published in the *Belfast* (Ireland) *Whig*, and inscribed to the members of the Northeast Agricultural Society. KITTY begins by saying:

I had a cow—my Drimindhu—
When Pat and I were joined together;
And I may say that for a day
She scarce was ever off the tether.
Och! wirrastru! my Drimindhu,
Your glossy coat all did admire;
My shining sloe, your like I know
Will never stand in shed or byre.

But "PAT," she says, sold her "Drimindhu," and purchased a Short-horn. The results of the enterprise are shown in the following verse:

And when the Short-horn calved at May,
Of corn and "cake" she got a skinful—
But may I never sin, if she
Gave at a milking half a tinful.
Och! wirrastru! my Drimindhu!
You needed neither "cake" nor corn;
On just dry hay three times a day,
You gave a canful night and morn.

KITTY is greatly mortified, as the neighbors, passing, ask—"Is there no more churnin' ?" and her thoughts turn to her Drimindhu, who, with only a "taste of hay three times a day," gave "galore of butter." PAT tries to pacify her by giving the aristocratic pedigree of the Short-horn:

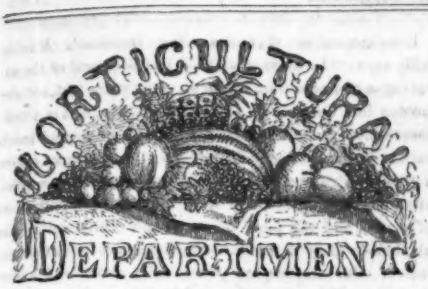
Says Pat to me, "Och, gramachree,
Her 'pedigree' shows dukes in dozens;
'The Royal Dane' and 'Lady Jane,'
And 'The Sultan,' too, are all her cousins."
Och! wirrastru! my Drimindhu!
Such nonsense puts me past my patience;
My darlin' cow, I miss you now,
Although you had no grand relations.

My curse upon them, night and day,
And may their grief be great as mine is,
That first brought o'er to Erin's shore
These Short horn cows and Cochin-Chinas.
Och! wirrastru! my Drimindhu!
From shady Barrow's banks I brought her;
And oft I dream of that fair stream,
And her eyes, placid as its water.

Of the Kerry breed, the *Farmer's Magazine* says:

"They are very handsome, or rather pretty, are well shaped, and the cows have good bags with rich milk, especially adaptable for butter making. A Kerry has the reputation of being able to 'live on anything,' an excellence occasionally put to the test; and at Cork, last summer, we were assured some of them *were getting fat on the week's better rations they got in the show yard*."

A KERRY BULL, RECENTLY EXPORTED FROM IRELAND TO THE CAPE OF GOOD HOPE.



HORTICULTURAL NOTES FOR THE MONTH.

May is a busy month for the gardener. Up to this date (April 19th), with the exception of a few warm days, the weather has been so cold and stormy that very little work has been accomplished in the garden. The greater bulk of seeding andplanting has yet to be done.

Peas, for the early crop, should be sown in rows 3½ to 4 feet apart and poled. Where it is difficult to get sticks, some of the dwarf kinds can be sown in rows about 2 feet apart; and by hoeing up the soil pretty high on the southern side of the rows, the vines will fall over it and produce fair crops without poling.

Carrots should always be sown in rows, wide enough apart to admit the free use of the hoe. The same is, in fact, true of nearly all our garden crops. The Early Short Horn is the best variety for the table. They may be sown quite thick, as these carrots when no larger than one's little finger are very nice eating. They can thus be thinned out with advantage. A few radishes sown in the drills will come up sooner than the carrots and serve to distinguish the rows, and allow the use of the hoe to break the crust and destroy the weeds before the carrots are fairly out of the ground.

Black Seed Onions like a rather compact soil. If the soil is light and has been dug and manured in the fall, the surface may be hoed over and the seed drilled in without digging.

Tomatoes, to be early, should be well up by the time this paper will be received. It is not yet too late, however, to sow the seed. If any plants spring up from self-sown seed where tomatoes were grown last year, they should be spared if needed, as they will produce earlier fruit than plants obtained from seed sown this season in the open ground. So at least an experienced grower informs us. Tomatoes may be transplanted when they have pushed three or four leaves. The bed should be thoroughly soaked with water before the plants are taken out, and the more earth kept on the roots the better. In this section it is not generally safe to set out more than a few of the plants before the middle of May.

Cabbage and Cauliflower may yet be sown. Plants from seed sown last month, if too thick should be pricked out to form stocky plants before the final planting. Transplanting is too much neglected. It is in many cases exceedingly beneficial. The chief point in transplanting is to have the bed from which the plants are taken thoroughly soaked, so that the moist earth will adhere to their roots. This is far more important than watering them after they are set out.

Beans.—Lima beans should now be planted on light, warm, rich, mellow soil, in hills 4 feet apart. Put five or six beans in each hill, and if they all grow take out the weaker ones. Three strong plants to a hill are enough. It is considered best to put the poles in the hill before planting, so as not to disturb the plants. The poles should be 10 to 12 feet long and be set firmly in the ground. String beans should be sown in drills 2 feet apart. Half a pint of seed will be sufficient for a row 20 feet long. Beans are very liable to be destroyed by cold, wet weather. Examine the seed a week after it is planted, and if it is decayed sow again at once.

Parsneps and Beets are sown in rows 2 feet apart, and the plants thinned out to 9 or 10 inches apart in the rows. The early Bassano beet may be thinned out as wanted for use.

Salsify, or Vegetable Oyster, is not sufficiently appreciated. Sow rather thickly in rows one foot apart and thin out the plants to 4 inches.

Cucumbers can be sown as soon as the weather becomes settled and the soil well warmed. Make the hills 4 feet apart. If you have a compost of leaf-mould and rotted manure, dig a hole two feet square and one foot deep and fill it with the compost. Sow six or eight seeds in the centre of each hill and press them in with the finger about an inch deep and cover them with soil. An old cheese-box with the bottom out, covered with gauze, will be very useful for keeping off cold winds and bugs. Three plants in a hill are sufficient, and five are too many.

Melons and Squashes are cultivated in the same manner as cucumbers, except that the hills should be a little further apart, say 5 feet each way for musk and 6 feet for watermelons, and 7 or 8 feet for squashes. The runners should be pinched in to make them branch and to throw the sap into the fruit.

Celery raised in the hot-bed should be pricked out into the open ground before setting them in the trenches. This will make the plants stocky and hardy.

The Flower Garden must not be neglected. The new postal laws allow seeds and plants to be sent by mail for one cent an ounce, and such plants as verbenas can now be sent by mail. This splendid bedding plant should find a place in every garden. It is better to set out the plants where verbenas were not grown the previous year. Peg them down as fast as they grow, and they will throw out new roots and spread rapidly. There is nothing more beautiful than a bed of well-selected verbenas. Watering them occasionally with a weak solution of Peruvian guano, say a teaspoonful to a gallon, is very beneficial.

Petunias, scarlet geraniums and heliotropes are also well known and excellent bedding-plants. Lantanas are quite showy and are useful for variety.

Annual flower seeds, however, are the main dependence of most farmers in embellishing their gardens. Their name is legion, and we can only allude to a few of the best known. Balsams, asters, German ten week stocks, etc., are better sown on a gentle hot-bed or on a warm, rich border, and the plants afterwards transplanted to where they are to remain. They should be about one foot apart. Rocket larkspur, candytuft, catchfly, convolvulus minor, lupins, malope, poppies, and Venus' looking-glass should be sown where the plants are intended to blossom,

as they do not bear transplanting well. Phlox, nemophila, portulacca and rocket larkspur produce the best effect in masses. Nemophila and lupinus should have a rather shady situation, while portulacca and calendrina require light and heat. The latter are well suited for rock work. In sowing small seeds, the great error to be avoided is covering the seed too deep. Let the soil be made as fine as possible, and but just barely covering the seed, watering gently, but thoroughly with a fine rose if the weather is dry.

PLANTING GRAPE VINES.—Carefully examine the roots and cut off, with a sharp knife, all that are mutilated. If the plants have been grown from a single eye, and all the roots are at the base, prune back the vines to about eight inches above their roots. Dig the holes a foot square and eight inches deep; put in an inch or two of compost—not dung,—and then set in the plant, spreading its roots out in their natural position, and fill in with rich soil, shaking and pressing it beneath and around the roots. Let one good bud be above ground. Give one good watering and shade if the weather is hot.

Let the ground be stirred two or three times during summer, to keep down the weeds. The vines may be allowed to grow at will the first summer. After they have grown a foot or so, and are lying on the ground, they should be trained to one cane, and the small laterals produced on the main cane should be pinched back to one leaf.

THE BLACK CURRANT FOR WINE.

IN the December number of the *Geneses Farmer* for 1860, we published some facts taken from Prof. DECAISNE's *Jardin Fruitier* in regard to the cultivation of the black currant for wine—or, as the French more correctly term it, *liqueur*. The *Boston Cultivator*, in alluding to this subject, says:

"The black currant flourishes well in this country, and could undoubtedly be made as profitable here as in France. Many years ago, Dr. ALFRED BAYLIES, of Taunton, engaged quite largely in the manufacture of wine from this fruit, for which he obtained a good market in the West India Islands. Within a year or two, the subject has attracted renewed attention in this vicinity, and at least one prominent horticulturist, CHEEVER NEWHALL, Esq., of Dorchester, has gone into the cultivation of the black currant and the manufacture of wine from it on a pretty extensive scale—the results having thus far been highly satisfactory. The best variety has been found to be the Black Naples, which produces larger fruit and better quality than any other yet tried here.

Since the above was written, we have tasted Mr. NEWHALL's black currant wine, which we think is an excellent article. It bears diluting with water well, and in that respect will make a very palatable and wholesome summer drink."

We may add that the late Dr. LONG, of this city, for several years previous to his death made a wine from black currants which he thought a good substitute for "port." It was certainly a better article than what is usually sold here as Port. The Black Naples is undoubtedly the best variety either for wine or for ordinary purposes.

TRANSPLANTING ROSES.—A correspondent of the London *Gardeners' Chronicle* transplanted several hundred roses last November, and mulched them with long manure a few days after the severe frost set in. Not one of these roses was injured, while those not transplanted were killed by the frost.

UNDERDRAINING GARDENS.—The *Gardener's Monthly* truly says: "In spite of all that has been said of the advantages of underdraining for so many years past, not one garden in a hundred is so improved, though it is a well-ascertained fact that such ground can be worked much earlier in the spring." It is the height of folly to expect a good garden on ground that is not naturally or artificially *under*-drained. Good seed, high manuring, the best of plants, and the most thorough and skillful culture are all thrown away if this fundamental improvement is neglected. Our seasons are proverbially short, and underdraining will lengthen them a fortnight or three weeks at both ends. It will make the ground warmer and give us an earlier and better growth.

SYRUP FROM WATERMELONS.—A correspondent of the *Boston Cultivator* says he made last year 40 gallons of syrup, of most excellent quality, from the melons grown on nine square rods of ground. The quantity of melon-juice obtained was 144 gallons, which was boiled down to 40 gallons. Why would not this juice make good wine?

IT is said that a decoction of the leaves of camomile will destroy insects.

CULTIVATION OF GRAPES.

GRAPE vines can be transplanted at any time from April 1st to June 1st. Even after they have become leaved out to a small degree, they may be set out with safety.

Fancy grape growers have published rules for the preparation of the soil for grape vines, which should not be followed, unless expense is of no consideration. They tell you to dig up the "border" to the depth of two or three feet, and to place at the bottom of it bones and other substances for the roots of the scions to feed upon. But this is all folly; the grape will flourish in any soil that will produce a fair crop of Indian corn, and the land requires but very little more or better preparation for the vines than it does for that crop.

If a vineyard were to be set, the land should be managed as follows: If the soil is free from rocks, plow as deep as possible, and cut a clean furrow, with a pair of horses or oxen; then let another team follow with a subsoil plow, loosening up the soil to the depth of 15 or 18 inches; or, if the subsoil plow is not used, let the first plowing be done with two double teams, or three horses abreast, and run the plow down to the beam. If the subsoil should be turned up so much the better, as it places the surface soil further down, where it will be of greater benefit to the vines as they advance in age.

If it be desired to set a vineyard upon a side-hill, or upon soil where such plowing would be materially obstructed, the ground must be trenched with a spade; but in this country, where land is cheap, there is no necessity to use any but good, smooth lands for vineyard purposes. The German vine-growers of Southern Ohio still adhere to the customs of their fathers in the old country, and trench their vineyard lands at a cost of about $500 per acre. They have imported this custom, and it will require perhaps, a hundred years to eradicate it from their brains. They dare not risk a preparation of the soil by the use of the plow simply because, as I look on the matter, the vine-growers of Germany, France and Italy use the spade only.

I admit that at an expense of $500 per acre, the land can be prepared a little better than it can by the plow, at expense of $2 to $3 per acre—but not much better. With the spade the surface soil may be turned under and six or eight inches of the subsoil brought upon the surface, where, by the action of the air and rains, it will become disintegrated and eventually rendered fertile, while the original surface soil will be down where the roots of the vines can feed upon it when they shall have been growing a good many years.

But where is the evidence that it is best to so manage our soils, that the roots of the vines will be drawn down deeply into the soil? I have never seen any; and I contend that by plowing the land fifteen inches deep and incorporating a portion of the subsoil with the surface soil, and applying a good dressing of well-rotted manure to the land once in four or five years, as good crops of grapes can be grown as by expending $500 per acre in the original preparation of the land.

When we examine the spontaneous growth of native grapes, in the New England States in particular, where some of them yield most profusely, and are of excellent quality, we find them growing in low, swampy lands, and the roots take care of themselves. I consider this a fair argument against preparing the soil in any case beyond what the plow can accomplish.

I am not speaking from mere theoretical knowledge, as I have a small vineyard, a part of which was trenched and the balance merely plowed as deep as the plow could be made to run, and I have yet to see any difference in the crops of fruit grown thereon. Moreover, some of the best grape-growers of the United States, who are not befogged by the antiquarian ideas of the vine-growers of Europe, are now cultivating vineyards successfully upon lands that were prepared solely by the plow. I, therefore, contend that the vineyards that are to be planted hereafter in this country—and their name will be legion—will be upon lands chiefly that have been prepared at an expense of $2 to $3 per acre only.

What is the reason that we can not compete with the wine-makers of France and Italy? We can do it. We already have the native grapes that would effect a complete revolution in the wine-making districts of the world, if we could be induced to enter into the business. I made an excellent wine last fall at the rate of a barrel to six bushels of the Concord grape, which is a very remarkable yield of juice or must. Probably we have other native varieties that will yield quite as much. The juice is of a rich color, somewhat darker than Maderia wine, and of excellent flavor.

But the profits of grape-growing are not so much in making wine as in selling the fruit in our large cities. In New York, the product of a thousand acres could readily be sold at the rate of 10 cents per lb. for good fruit. At present, three-fourths of all the grapes sent there are half ripe Isabellas, grown too far north to ripen before the fall frosts come on.

In regard to the question, which are the best varieties of native grapes now grown in the United States? I would mention the following: Delaware, Diana, Concord, Rebecca, Hartford Prolific, Northern Muscadine, Isabella and Catawba.

I have not placed the above varieties in any order of quality. The Delaware is, in my opinion, considerably overrated, and I believe that ten years hence it will be considered a very inferior variety for general cultivation. I have grown it during the last five years in a very favorable position, but it has failed to meet my requirements in a No. 1 variety, in growth of vines and in quantity and size of fruit. The *quality* of the fruit is good, but it must yield more prolificly with me, and escape the mildew better than it has done hitherto, before I shall change my opinion in regard to it. As everybody, probably, knows, the Delaware has been pretty steeply puffed—so was the Rebecca and Diana, when they first attracted the attention of the public. They "have had their day," and so will the Delaware, as soon as some new variety can be brought forward, at $5 per vine, to supplant it.

The Diana is not a whit behind the Delaware in the quantity of fruit, yields more prolificly, and the canes grow as rampant as those of the Isabella or Concord. I say this, in full and perfect belief, that a vineyard of Diana grapes would produce more profit than one of the Delaware, and that its fruit would sell in market for quite as much as that of the Delaware to those who do not desire simply to pay for a *name*.

The Rebecca is an excellent grape—when you can find one of them. In brief, it is a "shy" bearer and will never be very popular.

The Concord is a variety that will produce the most fruit, under the worst treatment, of any kind in existence; quality excellent, and considered "good enough" by people generally.*

Hartford Prolific and Northern Muscadine are good varieties, but have the fault of fruit not adhering to the bunches quite enough.

The Isabella and Catawba are as "old as the hills," and are, as the politicians say, "about played out" at the *North*.

There are a dozen other good native varieties, but the above are some of the principal kinds now cultivated. I did not design, in this article, to say much on the different varieties of grapes, and must leave that for a future article.

T. B. MINER.

Clinton, N. Y.

---

* The Concord is an excellent variety, but the Delaware in our opinion is superior to it in flavor. CHARLES DOWNING, good and disinterested authority, in the April number of the *Magazine of Horticulture*, says:

"I have no particular interest in the Delaware except the public good, (not having sold any vines or fruit and do not expect to.) It is not so rampant in its growth as Concord, but is vigorous enough for all practical purposes—ripens its wood better than any hardy grape I ever saw—comes early into bearing—is very productive (too much so unless thinned), and to my taste, and all others who have expressed an opinion to me, much superior to Concord in flavor.

Five years ago I planted in a continuous row one of each, in the order named—Rebecca, Raabe, Delaware, Hartford Prolific, Concord and Elsinboro', and, *so far, the Delaware has given me more fruit than any one of them*—soil and cultivation all the same—exposure free and open. The ground, when planted, was worked to the depth of fourteen or fifteen inches, and moderately enriched. Other soils, locations and exposure may give different results, as this is only a single instance, and I have had experience enough to know that no *decided* opinion can be given, as to productiveness and profit per acre, short of ten years trial at least, and twenty would be safer. I do not undervalue the Concord, but, on the contrary, esteem it a valuable acquisition; but it is, in my opinion, inferior in flavor to the Delaware, while the latter is two or three weeks earlier, which is a desideratum. Both are useful varieties, and will fill the places they are suited for."

ORNAMENTAL HANGING BASKETS.

HANGING BASKETS.

Among the many decorative purposes for which plants may be used, the plan of growing trailing or drooping ones in hanging baskets or vases is one of great scope. If made to correspond with surrounding objects they will grace the most gorgeous *salon* or drawing room, the cosy sitting-room, the hall, vestibule or porch, the veranda or balcony, and will be equally attractive before the door of the plainest cottage. They give, when properly kept, an air of elegance and grace which can scarcely be produced in any other way. The above engraving will give some idea as to what may be done with hanging baskets.

The upper one shown contains a plant of *Mahernia incisa* —a handsome plant, with orange and white tubular flowers, which have the peculiarity of growing downward, so that very few can be seen from above; but when hung up so as to be seen from below, they are very showy. In the larger or middle one is grown a plant of *Maurandya Barclayana*, which has blue and white flowers, and is an excellent plant for this purpose. *Saxifraga sarmentosa* (creeping saxifrage) is the plant grown in the lower vase. It is a well-known subject, with hairy parti-colored leaves and pinkish-white flowers. The runners thrown out produce a perfect plant on the ends, somewhat like a strawberry.

In addition to the plants mentioned above, the following will all be found well adapted to this method of growth: *Cereus flagelliformis*, a well-known plant of the cactus tribe; *Tradescantia zebrina*, with leaves striped with dark reddish purple; *Tropæolum lobbianum*, with its showy, orange scarlet flower, blooming well in winter and early spring; the *Ivy-leaved Geranium*, an old favorite, and one extremely well adapted for baskets; *Neurembergia gracilis*, a graceful, pretty plant with bluish white flowers; and last, but not least, *Verbenas* and *Petunias*. The baskets or vases may be made of pottery ware, which can be purchased at the shops, or, still better, of wire, in which the pots containing the plants should be placed and then covered with moss, till the growth is sufficient to hide them. Very pretty designs may also be made of wood, in the rustic style, and covered with either bark, moss or cones. Keep the plants well watered, but do not give them too much, and be sure to keep dust off the leaves.

W. T. GOLDSMITH

Ladies' Department.

THE FLOWER GARDEN.

Although there are a few choice flowering plants that the whole season beautify our borders with their varied hues, as verbenas, etc., our gardens require, to secure constant succession and variety, flowers of annual growth. Many of these we are accustomed to grow with little culture—some, we may say, with none, except so far as to clear them from weeds. These latter have become so common as to be almost despised, and the room they occupy grudgingly allowed or the plants quite discarded—their places being filled with new importations, with high-sounding names, too often of less beauty than the old favorites of our grandmothers. We purchase balsams, asters, larkspurs, etc., of celebrated seedsmen, and for one season our plants are the admiration of ourselves and friends; but alas! the next season we have in return for our care single blooms, with colors that bear no comparison to the flowers of the parent plant. This discourages us, and we are ready to give up annuals entirely. Often do we hear it said, "This was beautiful last year, but now it has only single blooms." This is proverbially true of the flowers named above as well as many others.

Perhaps if the lady readers of the *Farmer* understood how the seeds were perfected from which grow such fine double blossoms, they may be prepared the coming season to secure seeds that will not disappoint their future expectations. We will commence with balsams, the most difficult of all commonly cultivated annuals to maintain true to their first or, rather, forced character. Florists select seed at least three years old; these are planted in a gentle hot-bed, and transplanted to small pots as soon as fairly up. The pots, which are always well-drained and filled with rich, light mould, are plunged for a week into a hot-bed and well supplied with water; they are then transplanted to the next sized pots, and this shifting is continued until the flower buds commence to form, when the repotting is discontinued and the plants are removed to the green-house. To secure the best balsams, it is important to give plenty of air, light and water; the saucers should be filled each day with fresh water, and sometimes the plants are stimulated with water impregnated with manures. From these extra-grown plants seeds from the finest blossoms are selected for future growing—well dried and preserved free from moisture several years before sowing. It is not to be supposed that amateur cultivators will be able to take the same pains with this flower as regular florists, but they will perceive that unless grown in the best soil, briskly germinated, well watered, seed carefully selected and preserved, and planted only when three years old, there is but little hope of fine flowers.

The last effort of nature being to reproduce itself, more flower buds will form on plants grown from old than on those grown from new seeds, and these will be likely to prove double. All know that nature forms her flowers single with all the organs perfect for perfecting their seed without the aid of man, and that it is when the character of blooms are changed by high culture that the seeds fail to form; when, the stamens being converted into leaves, there is no polen with which to fertilize the stigma, and of course no seed can be produced. Seldom, however, every stamen is so changed, and usually sufficient polen is secreted to partially impregnate the flowers; but as there is so little, adverse weather may cause it to remain so long confined as to be wholly useless to the stigma when it is let loose, it being then past impregnation. To prevent this, it is necessary to secure dry atmosphere, of moderate heat, while the seed impregnates. This can be effected by cultivating a few plants in pots, plunging them in the border, kept moist and removed to the house in cold, damp weather. It is important, in order to secure good seed, that all inferior plants of the same species be removed as soon as their character is known. If a double flower has no stamens, the stigma may be impregnated by single flowers of the same species, when the seed will contain embryos of each parent, producing both single and double blooming plants.

Asters.—The reason why choice asters fail to perfect seed is this: they are so very double that they retain moisture, and this produces mould and decay. By growing one plant under glass or in a warm, sunny room seed can be fully ripened. To secure for future sowing fine seed, true to their parent, remove all asters, except the choicest plants, from the garden as soon as their character is known. To do well, they should be planted by April in a hot-bed, and from it be transplanted to a bed prepared with leaf mould and rotted manure in May.

Larkspurs.—These will hardly bear transplanting, neither do they like heat. The best method is to prepare a bed with leaf-mould, powdered charcoal and rotted manure in September, and sow the seeds where they are to remain. If any plants show single flowers remove them without delay, and gather seeds from the finest. It is best to sow them the second year after ripening.

German Stocks often disappoint the cultivator, showing poor single blooms. The seed should be sown in boxes or seed pans, plunged into a hot-bed and transplanted into a well prepared border of sand, rotted manure and leaf-mould. The double flowers seldom bear seed, but it is a poor plan to have many single plants; a few well impregnated seeds are better than many that are worthless. The finest double seed can be produced by removing all the blooms from the single blooming stocks, as soon as three or four seed vessels form upon the spike. This will compel all the nutritive matter that would have been expended on the whole to concentrate on the few seeds already formed, the result of which will be that there will be many more embryos of double flowers than if the whole seed was retained and ripened.

Prospect Place, Monroe, Mich. MRS. E. F. HASKELL.

Miscellaneous.

Water-Proof Cloth.—The Paris *Moniteur Industriel* states that 20,000 tunics, rendered water-proof and yet porous, were served out to the French army during the late war with Russia. They were prepared in the following manner: Take 2 lbs. 4 oz. of alum, and dissolve it in 10 gallons of water; in like manner dissolve the same quantity of sugar of lead in a similar quantity of water, and mix the two together. They form a precipitate of the sulphate of lead. The clear liquor is now withdrawn, and the cloth immersed for one hour in the solution, when it is taken out, dried in the shade, washed in clean water and dried again. This preparation enables the cloth to repel water like the feathers of a duck's back, and yet allows the perspiration to pass somewhat freely through it, which is not the case with gutta-percha or India-rubber cloth.

The Art of Laughing.—The man that laughs is a doctor without a diploma; his face does more good in a sick room than a bushel of powders or a gallon of bitter draughts. People are always glad to see him—their hands instinctively go half way out to meet his grasp, while they turn involuntarily from the clammy touch of the dyspeptic who speaks on the groaning key. He laughs you out of your faults, while you never dream of being offended with him; it seems as if sunshine came into the room with him, and you never know what a pleasant world you are living in, until he points out the sunny streaks on its pathway.

Sir Walter Scott wrote: The race of mankind would perish did we cease to help each other. From the time that the mother binds the child's head, till the moment that some kind assistant wipes the dew of death from the brow of the dying, we cannot exist without mutual help. All, therefore, that need aid have a right to ask it of their fellow mortals, and no one, who has it in his power to grant, can refuse without incurring guilt.

A "bumptious" traveler overtaking an old Presbyterian minister, whose nag was much fatigued, quizzed the old gentleman upon his "turn out." "A nice horse yours, doctor! very—valuable beast that—but what makes him wag his tail so, doctor?" "Why, as you have asked me, I will tell you. It is for the same reason that your tongue wags so—a sort of natural weakness."

NOTES ON THE WEATHER FROM MARCH 15th TO APRIL 16th, 1861.—The last half of March has been cooler than the first, and though pretty fair for business, has been rough and raw. The average heat of it was 31.6°, and for 24 years was 34.7°, and of the month was 31.3°, and for the 24 years was 32.7°, being 1.4 below the average. In other years, the heat or cold of March has been very different. The temperature of March, 1856, was but 24.3°, seven below the last, and of March, 1859, was 39.3, eight above this March.

The water of the month was 1.552 inches, some snow and some rain. No sleighing. On the 23d, we had hail, rain, and snow. A heavy snow storm along the Atlantic from the 19th to the 23d. At Augusta, Geo., six to eight inches of snow fell on the 19th, wind being S. E. and S. On the same day snow fell at Norfolk, Va., and Portsmouth, as the storm advanced towards the north, and left two or three inches at Charleston, S. C. Sleighs were used on the 20th at Richmond, Va., and at Petersburgh. The storm moved on, and began late in the evening at New York and continued through next day, when the wind changed from the west and blew a gale. On the morning of the 21st, the storm began at Albany, and a gale from the west piled up the snow towards evening. At noon of the 21st the storm raged at Boston from the N. E., and next day the snow was piled in huge drifts by the west wind. Moving northward, the storm was later at Portland, Me., but ended by west wind and its drifts. The railroads were blocked up from Maine through Massachusetts and Connecticut to Long Island and New York, from New York southward and westward and northward, and some west of Albany. The storm was confined to the country east of the Allegany mountains to the ocean, over 1000 miles in length and 200 or more in breadth.

The spring has advanced slowly. Some early soft maples put out stamens early in the month, and more afterwards, but the blossoms were all destitute of pistils. The buds of the lilac slowly swelled.

April began with a day of snow, wet and heavy, which lay three days on grass lands, and slowly melted, as the temperature was little above 32°. Soon the mud dried, and the streets became very dusty to the 13th. The people now longed for rain to lay the dust and start the grass and wheat, and it came early after a splendid morning, and again in the afternoon, and also evening; a very fine rain, though the horns of the new moon gave no indication that rain could fall. The 12th and 13th were warm days, 65° and 60° at noon. The 14th and 15th were cooler, and even the mud was a great relief from the great dust of the preceding eight or ten days.

The mean heat of this first half of April was 42.2°, and for 24 years was 41°. The average water fell.

April has given us, so far, much pleasant weather, some clear days, and some clear parts of days, and seven clear evenings, from the 5th to the 12th. The heat a little above the average. The daisies and crocus show their fair beauties in our yards, the soft maple sends out more flowers, mostly only stamens, and the buds of lilac are bursting into leaves.

The Scale Bug, which appeared on many maples last year, are in great abundance on some trees now; little oval oblong brownish scales fastened close to the bark, indicating no good to the maples.

MARCH 20th.—London, England, very cool weather, and the sowing of spring wheat, etc., delayed.

APRIL CASH PRIZES.—Our April Premiums, for the greatest number of subscribers sent in on or before the 15th of April, have been taken as follows:

1.	Capt. G. Converse, Wilkesbarre, Pa.,	$25	for	141 subs.
2.	R. W. Sawtell, Woodstock, C. W.,	20	"	88 "
3.	W. H. McCrea, Norristown, Pa.,	15	"	76 "
4.	Thos. Atkinson, Ailsacraig, C. W.,	10	"	66 "
5.	G. Pattison, Crowland, C. W.,	9	"	65 "
6.	McKinstry & Bros., Fredonia, N. Y.,	8	"	53 "
7.	Henry, White, Chatham, C. W.,	7	"	51 "
8.	Joseph Bates, North Glanford, C. W.,	6	"	48 "
9.	Henry Botsford, Amherstburg, C. W.,	5	"	44 "
10.	Jacob Walton, Kettleby, C. W.,	4	"	40 "
11.	Chas. Brown, Cobourg, C. W.,	3	"	36 "
12.	A. B. Dunning, Demorestville, C. W.,	2	"	35 "
13.	F. W. Whitelaw, Niagara, N. Y.,	1	"	34 "

Our friends can draw on us at sight for the amount, or we will send it by mail, or in any other way they may designate.

THORLEY'S FOOD FOR CATTLE.—Our remarks on Artificial Foods, in the last number of the *Farmer*, in answer to a correspondent, have elicited a letter from the agent of Thorley's Food for Cattle. He says:

"Perhaps it has been unwise to conceal from the public the ingredients of this food, but the fear of spurious preparations and imitations, to avoid the expense of a genuine article, is alone the cause of such concealment. The food contains sixteen different ingredients, the principal being the carob and locust bean, linseed, peas, and various seeds in their nature aromatic and tonic. These seeds have been selected from their well known milk-producing qualities. It does not contain any of the substances usually given in condition powders; and as a contradiction to the supposition of this food being high priced, I would here observe that many farmers are now buying this food by the ton, in order to avail themselves of the discount for such."

We do not know what the price is *per ton*. But the price per cwt. in England is £2, or $10. In this country, as advertised in the *Farmer*, it is $14. This would be $200 per ton in England, and $280 per ton in this country. Suppose we allow $80 per ton for "*discount*," it would still cost $200 per ton. Is it worth any such price as *food* for cattle? We cannot believe that it is worth *half* that sum.

The carob and locust bean is one and the same thing. It is the product of a tree in Syria, and the pods resemble somewhat those of the honey locust. It is believed to be "the husks which the swine did eat," spoken of in the parable of the Prodigal Son. These beans are now brought into England in considerable quantities. The price in Liverpool, according to the *Mark Lane Express* of

April 1, is from $30 to $35 per ton. The value of linseed and peas our readers know. These three ingredients, we are told, form the bulk of the food. Suppose we call them worth $50 per ton; we should then pay $150 for the "aromatic and tonic" ingredients in a ton of this food. Let those pay it who will.

"What is the Most Profitable Kind of Sheep For Farmers?"—This was the question proposed for discussion at a late meeting of the Ohio Board of Agriculture.

Dr. Townshend, of Lorain county, said that land in his section was too high to devote to *wool-growing*, hence meat and grain are raised. His father kept Leicesters and Cotswolds, which average six pounds of wool per head, the average price of which is thirty-three cents per pound. Wethers at two to three years old sold at $5 to $10 per head—have sold as high as $16, and such as would dress forty pounds per quarter, when the mutton was worth ten cents per pound in New York.

Chester Palmer, of Geauga county, said he had an experience of twenty-seven years in wool-growing. He commenced with Spanish Merino descended from the Wells and Dickinson flock, and goes on the principle of raising those shep that will give the greatest yield of *fine wool to the acre*. He selected his first flock of ewes with particular reference to their constitutional vigor, and crossed them with pure Silesian rams. The result was, they yielded four pounds and two ounces per head of *clean* wool. This year he sheared four hundred sheep that yielded five pounds, worth fifty cents per pound. Large sheep cannot be kept in such numbers as small ones, without deteriorating in size. His experiments with the French Merino sheep have satisfied him that *they are not* the most profitable sheep. His Spanish and Silesian sheep gave twenty-five per cent more profit than sheep raised from his largest ewes crossed with rams of Mr. Bingham's best French Merinos. He is decidedly in favor of the fine wool, and of a cross between the Silesian and Spanish Merinos.

Mr. Chamberlain, of Clarke county, said he had been breeding Spanish Merinos for a number of years, and claims they have more constitution, will bear more exposure, and flock together better than any other breed. He had flocked the Long-wools and the French Merinos with the Spanish, and found the latter always the best. His sixty head average six and three-fourths pounds of wool per head. He sowed rye to pasture his ewes on at the season of lambing, and likes the practice.

Mr. Quinn, of Columbiana county, said fine wool with him had proved a failure. Had kept the Spanish and the Cotswold breeds, and the latter took on three pounds of flesh to one for the former. They are very quiet, eat, and lie down, while the fine-wools roam about the fields to see what they can find, and thus work off their food. Gets about twice as much for a Cotswold weather as for a Merino. At five months old, his long-wool lambs weigh more than fine-wool sheep ever weigh.

Mr. Easton, of Huron county, says that those who can make most by raising wool, should grow fine-wool sheep. Those who can make most by mutton should raise the coarse-wools. This depends partly on nearness to market, and partly on the character of the country. On hilly land, fine-wool sheep do best; but he thinks in a level country the coarse-wools are preferable.

The Markets.

OFFICE OF THE GENESEE FARMER,
ROCHESTER, N. Y., April 26, 1861.

Wheat has advanced from 2 to 6 cents per bushel since our last report. It is as high now as at any time since last harvest; and the best qualities of white and red winter wheat are from 1 to 2 cents higher. It is still, however, about 10 cents per bushel lower than it was this time last year, and 20 cents lower than at this time in 1859. There is a large quantity of grain in the west and in Canada awaiting the opening of navigation. We believe, however, that the demand will be found fully equal to the supply.

According to the last *Mark Lane Express*, American wheat in London was selling at $1.84@$1.99 for red, and $1.89@2.04 for white. This is from 3 to 6 cents per bushel higher than at our last report. The *Mark-Lane Express* of April 1st says:

"As time rolls on, the fact of a serious deficiency from last year becomes more apparent, and those who doubted its extent, or altogether denied this, now avow their conviction of its truth. If we take the course of six months' deliveries as an indication of the yield, the matter stands thus:—The three last months of 1860 and the three first of this year make the present totals 1,846,703 qrs., [14,773,624 bushels.] against 3,166,607 qrs. [25,332,856 bush.] for the same period last season, showing a decrease of 1,319,904 qrs., [10,559 232 bush.,] which is very near the proportion of 7 to 12, or only one-twelfth more than a half. We are therefore only more confirmed in our position as to the real state of things, without at all entering into the calculation of serious deficiencies in the potato and other root crops."

New York, April 25.—The stock of wheat on hand consists principally of spring, which is declined and dull of sale. Choice white is fairly sustained. White $1.42@$1 68; red $1.20@$1.42½. Corn 67@71c. Rye 68@69c. Oats 34@36c. Barley 60@75c. Peas, Canadian, 73@78c. Beans $1.25@$1.45. Clover seed 7¾@8c. per lb. Timothy $2.75@$3.00 per bushel. Rough flax seed $1.45@$1.50 per bushel of 56 lbs. Hay, in bales, 70@75c. per 100 lbs.

Wool, very dull and heavy; sales of pulled wool at 25@48c. Domestic fleece 35@48c.

Butter, first quality of old nearly exhausted and firmly held at 21@22c; fresh State 17@23c; Orange county 22@25c; Ohio and Penn. 10@16c. for good, and 9@12c. for fair—market falling.

Potatoes dull; Mercers, western, $1.75@$2.00; Rochester, $2.12@$2 25; Peachblows $1.75@$1.87; Buckeyes $162@$1.95; Prince Alberts, Flukes, Round Pinkeyes and Western Reds, $1.50@1.62 per barrel. Apples $1.25@$2.00 per barrel.

The number of fat cattle in the market for this week (April 24) was 2,949, against 3,831 the week previous, and there was an advance in price equal to about half a cent per lb. net. The average price is from 7⅛ to 8¼ cents per lb. net; extra fine, 9 cents. There is likely to be a demand for cattle at Washington in consequence of Virginia refusing a supply. The difficulty now is how to get them there. The *Tribune* says the best drove of bullocks in market on Tuesday was one of 70 head, nice, smooth, fat Illinois steers, 3 and 4 years old, averaging 8¼ cwt. They sold at perhaps a little over 8¼ cents—which will not pay cost.

There is an active demand for working cattle this week, and none in market. After next week there will probably be little demand.

Cows sell very low—at $5 to $10 a head less than a year ago. The *Tribune* says a nice, smooth, three year old heifer and a good calf, indicating a good supply of rich milk, sold for $80. Plenty of ordinary looking cows with calves are offered at from $25 to $35.

Veal calves are low and hard to sell. The best bring not more than 6 cents per lb. live weight while those of ordinary character are dull at 4@4½ cents, and "hobs hard to get off at anything over freight and commission."

Philadelphia, April 23.—Wheat steady: red $1.31, white $1.40@1.50. Corn firm; sales at 62c. Rye 68c. Oats 33½c. Clover seed dull, $4.75@$4.87½. Hogs, arrivals abundant; sales of several thousand at $6 25@$7.25 per 100 lbs. net.

Chicago, April 20.—Market for all kinds of grain advanced from 1 to 3 cents. Sales of No. 1 spring at 93c; No. 2, 90c; rejected, 72c. Corn 29@33c. Oats 17@23c. Rye 40@42c. Seeds dull; Timothy $2.25@$3.00; clover $3 75@$4.00; red top $1.25@$1.50; millet 55@60c; Hungarian 25@30c; flax $1.00@$1.25. Beans, prime navy in demand at $1.00@$1.12½; common mixed dull at 50@80c. for inferior to prime. Peas 55@75c. Eggs 8@9c. per doz. Potatoes, common qualities dull at 15@18c; good Neshannocks in demand at 20@22c. Hay, loose prairie $8.50@$4.00; loose timothy $6.00@$6.50 per ton.

Toronto, April 22.—Wheat steady; winter $1.14@$1.21; spring 96c@$1.02. Barley 48@52c. Peas lower, 46@50c. Oats 25@27c. Timothy seed $2.50@$3.00; clover $4.50@$6.75. Potatoes lower, 20@30c. Hay $12@$17; straw $6@$7 per ton. Butter, fresh rolls 20@22c; good tub 14@16c. Eggs 10@12c. per doz.

Rochester, April 25.—Mediterranean wheat $1.00@$1.06; white Genesee and Canadian $1.12½@$1.35. Corn 40@45c; Oats 25c. Barley 50@55c. Beans 88c@$1.12½. Rye 60@63. Clover seed advanced, $4.50@$5.00; timothy $2.50@$3.25. Hay $9@$13 per ton.

Buffalo, April 24.—Market dull and heavy. Sales of Wisconsin spring wheat at 95c. Barley 54@58c. Oats 23@24c. Rye 56c. Canadian peas 50@55c. Timothy seed dull; Canadian $2.50, Illinois $2.75; clover, $4.75@$5.00

Rat Charming.—It appears that some one has advertised a secret art for catching rats, which the discoverer kindly offers to send to any address on the receipt of 50 cents. The *American Agriculturist*, believing it to be a humbug, sent for it, and gives the substance of the secret as follows: "Tie a string to a red herring; put on rubber shoes; trail the herring around the room or field nightly for a week or so, and the rats will, by-and-by, get familiar and follow you into a bag, or anywhere you wish to take them!"

Inquiries and Answers.

CARROTS.—(J. A. H.) Almost any soil can be made to produce good carrots, if properly prepared. A sandy loam, or a deep black soil inclining to peat, is perhaps the best. Sow in rows 14 inches apart, on a flat surface, or take a small plow and throw two furrows together, leaving the ridges about two feet apart from top to top. The former method will give the largest crop, but the labor of keeping them clean is far greater. Sow as soon as the ground is in good condition and the weather warm enough to start the seed quickly. Here, from the middle to the end of May is the best time, but good crops have been obtained sown as late as the 15th of June. It is best to test the seed, by sowing a hundred seeds in a hot bed, and ascertain how many grow. If sown by hand, it is well to soak the seed in warm water for two days before sowing, as it will start earlier and be more likely to get ahead of the weeds. If the weather should be unfavorable after the seed is soaked, it may be taken out of the water and rolled in plaster, and set in a cool place, and it will sustain no harm for a week or ten days. If sprouted, all the better. If the weather is dry, the soil should be rolled after sowing, or the soil may be trod down by following on the rows after the seed is sown, and then covered lightly with a rake. Half an inch is deep enough, unless the soil is very dry. As soon as the carrots can be distinguished, pass lightly through the rows with a hoe. This is very important. It must not be neglected, however pressing other work may be. The great secret of economy in carrot culture is to weed *early*, and use the hoe freely. Thinning, too, is very important. If the ground is rich, they should be thinned out so as to stand from six to nine inches apart, according to the variety. This should be done when the plants are from two to three inches high, or earlier if they are very thick. It is best to sow plenty of seed, say 3 lbs. per acre. The *White Belgian* will yield the heaviest crop, and as they grow more out of the ground than the red varieties, they are more easily harvested. They are, however, not so nutritious. The *Aldringham* is perhaps the best red variety for farm purposes.

SCOURS IN SHEEP.—(R. S. N.) Give the sheep a pint of milk thickened with wheat flour. Repeat the dose every day till the scouring stops. This is good for sheep, calves, or humans. To make milk porridge is not exactly man's work; but as we have made and eaten many a quart, we will give our receipt. For one quart of milk take a heaped tablespoonful of flour; add half a teacupful of *cold* milk or water. Mix this thoroughly, *breaking every lump of flour*. This is the important point. Let the milk to be thickened be brought to the boiling point, and then add the flour prepared as above, stirring the milk while pouring it in,—and keep stirring. Let it boil a few minutes.

MARL.—(E. SANFORD.) We cannot judge of the value of the marl you send, without an analysis. From the number of small shells it contains, from the appearance of organic matter, and from its friability, we think it would prove a valuable manure.

PLOWS.—(J. B. R.) A. GORDON, of this city, makes a plow that we can recommend. See his advertisement.

REFUSE TAN BARK.—(D.) According to an analysis of Mr. LONEN, a ton of refuse tan-bark contains

Water,	800 lbs.
Organic matter,	968 "
Ash,	132 "

The organic matter contains nitrogen capable of yielding, by decomposition, about 1¼ lbs. of ammonia. The ash of one ton contains

Silica and sand,	7 lbs.
Phosphoric acid,	9 "
Carbonate of lime,	112 "
Sulphate of lime,	8 "
Magnesia,	¼ "
Potash,	1¾ "

That is to say, one ton will furnish 1¼ lbs. of ammonia, 1¼ lbs. of potash, 8 lbs. of sulphate of lime (plaster), and 5 lbs of phosphates. These are the principal fertilizing ingredients. The analysis shows that its value as a fertilizer is very insignificant.

In reply to your question as to how it compares, in composition and value, to barn-yard manure, we would state that a ton of the latter, of average quality, contains

Water,	1680
Carbonaceous matter (oxygen, hydrogen and carbon),	272
Nitrogen,	8
Potash and soda,	11
Lime,	13
Magnesia,	5
Phosphoric acid,	4
Sulphuric acid,	3
Chlorine,	1
Silica, or sand,	89
Oxide of iron and alumina,	4
	2000

The nitrogen (ammonia), potash, and phosphoric acid are the most valuable ingredients in any manure, and it will be seen that barn-yard manure contains five times as much nitrogen as spent tan-bark, and over seven times as much potash and soda, and twice as much phosphoric acid. We have no doubt that one ton of good barn-yard manure is worth at least three tons of spent tan-bark.

DODDER.—(A. M.) The botanical name is *Cuscuta*. They are parasitic herbs, with slender, twining, leafless, orange colored stems, germinating in the earth, but speedily attaching themselves to other plants by their roots. The roots in the earth soon die, and the dodder then obtains nourishment from the sap of the plants to which it is attached. It is an especial enemy to the flax grower. A French chemist, M. PONSARD, having learned that it contains "an enormous quantity of tannic acid," bethought him of iron-salts as a fatal enemy. He watered some lucerne that was affected with dodder, with a saturated solution of green vitriol (sulphate of iron), and the effect was all that could be desired. In an hour or two every particle of dodder was destroyed. A tannate of iron had been formed.

As dodder contains so much tannic acid, cannot it be used for tanning purposes?

CHINESE HOGS.—(WM. HARICK.) We do not know where you can get pure Chinese hogs. The late JOHN DELAFIELD had them, and so had Mr. PARSONS, of Canada; but, as they are only useful to cross with other breeds, we can not say whether they have been kept pure.

STEAMED FOOD FOR CATTLE.—(C. W.) We can not agree with your friend who thinks that steamed food is "too enervating or weakening for cattle." We never heard of its having such an effect.

BARLEY FOR HORSES.—(J. H.) There can be no doubt that barley is an excellent food for horses. Whether it is as good or as economical as oats we cannot say. In this country and in Europe, oats are beyond all question the favorite grain for horses. The Arabs from time immemorial have fed their horses with barley. It seems to have been used as such in the time of Solomon, who had "forty thousand stalls of horses for his chariots and twelve thousand horsemen," for we are told that "his officers provided victuals for King Solomon, *barley also and straw for the horses* and the dromedaries." We have fed *boiled barley* to horses, and know of nothing that will fat a horse so rapidly. It should be boiled till it opens, say about an hour.

HUMBUG ADVERTISEMENTS.—(HENRY LANDS.) We cannot exclude every humbug advertisement from our columns, for the simple reason that we have no better means of judging on this point than you or any other of our readers. We would not knowingly insert a deceptive advertisement. You say you have sent thirty cents for a receipt for making honey, and think it worthless. We think this quite likely, and had you told us the person's name we would take care that his advertisement is not again inserted in the *Farmer*. The advertisement of Mammoth Cabbage we have reason to believe is *not* a humbug. You may send for the seed with confidence.

SAWDUST FOR MULCHING TREES.—(N. B. H.) We have never used sawdust as a mulch for young fruit trees, but we can see no reason why it would not be good for this purpose. The object of mulching is to check evaporation from the soil, without excluding the air. Straw, littery manure, grass, or any refuse vegetable matter may be used. For strawberries, there is nothing better than the clippings of the lawn, or grass of any kind—the object being to keep the fruit from being soiled, as well as to keep the ground moist.

LARGE BREED OF HOGS.—(JAS. DURAND, *Kingston, C. W.*) The best breed of large hogs with which we are acquainted is the Yorkshire. We have seen some good specimens of this breed at the Fairs of your Agricultural Association, but do not recollect the names of the exhibitors. The "Chester County White Hogs" are highly recommended, but we are not sufficiently acquainted with the breed to speak definitely of their merits.

LIQUID MANURE TANKS.—(J. R. T.) They can be made of either brick or stone, and plastered with water-lime.

SEEDS.—(A. H.) We cannot send you seeds of the geranium and tulip; they are not propagated from seeds.

APPLES FROM SEED.—(F. H.) They will *not* produce the same kind as that from which the seed is taken.

NASH'S PRACTICAL HORSE FARRIER.—(D. B.) We will send you this work by mail, pre-paid, for 50 cents.

LAWN GRASS.—(D. C.) You can probably get nothing better than Kentucky blue grass and red-top.

CORN CRIB, &c.—Will some of the readers of the *Farmer* please give a convenient design for a corn crib, pig sty, and wagon shed, all combined; and also the construction of the crib to keep rats and mice from the corn? P. H. C. SMITH, *Smithfield, Ind.*

I HAVE a field in poor condition, which I intend to fallow this year and sow in the following spring with a white crop and seed down with grass seeds. I have a very insufficient quantity of manure to bring the land into good heart, and I would be thankful for some advice how to supplement the deficiency. The field is knolly and somewhat gravelly, but I think capable, under favorable circumstances, of raising a good crop. It is at the corner of the farm, and I suppose has been under the depleting process ever since it had a fence around it. Two methods suggest themselves to my mind: the first to sow a green crop and plow it in; the other to sow it with Hungarian or some other ready growing grass, and turn in the stock in the autumn to consume it. I am without experience in the matter, which is the reason of my writing to you, trusting that you or some of your intelligent correspondents will be kind enough to direct me what to do. The advice may be useful to others as well as to a FIRESIDE FARMER.—*County of Peel, C. W.*

P. S. It has occurred to my mind that rape might be sown, to feed off in the autumn.

What grass seed would be best to sow with clover, to depasture only one year?

Judging from European experience, the best crop to sow would be spurry. Sow in July, and plow it in the next spring. But the seed, as yet, cannot be obtained here in sufficient quantity.

We are not in favor of sowing grass or oats, or any of the *ceralia*, for the purpose of plowing in. Peas would be better. Rape would be excellent, if adapted to your climate. We have had no experience with it in this country. We have seen splendid crops of it in England, and in France and Belgium, under the name of colza, it is extensively cultivated for its seed, from which the rape-oil is expressed. If any of our readers have had experience with it, we should be glad to hear from them.

We are not much in favor of plowing in buckwheat for manure, but there are those who think there is nothing better.

CROPS FOR SOILING.—Having a small piece of land, barely sufficient to keep a horse and cow with pasture and meadow, would it pay well to cultivate some forage crop for soiling or summer feeding, instead of occupying any portion of it for pasture? There appear to be several kinds of crops used for that purpose, such as corn, clover, lucerne, sainfoin, chicory, etc. What are their relative merits? And can the seeds of the three last named, or any of them, be obtained at the seed stores? L. W., *Niagara Co., N. Y.*

Will some of our correspondents who have had experience in soiling, answer the above?

HUNGARIAN GRASS.—I would like to get an article from you, or from some of your many able correspondents, in regard to Hungarian grass. It has been raised here in the west the last two years, and there are various opinions in regard to it, whether it is profitable or not. Some are of the opinion that it kills land faster than any crop they can raise; others say that it is not a healthy feed for stock. When fed to horses, it has the tendency to stiffen their limbs and derange the system, so they have abandoned the use of it. Let us have the opinions of your correspondents. WM. M. GATES, *Howard Co., Mo.*

STIFFS IN HORSES.—Can you or some of your correspondents inform me of the cause and cure of a disease known here as "stiffs?" There are a great many horses subject to this disease in this part of the country. Mares with foal are more subject to it than others. I have not heard of any cure for it yet. If *Youatt on the Horse* treats of the disease, I would like some one to inform me under what name it is described. J. A. E., *Monroe Co., Iowa.*

PICKLED CUCUMBERS.—Can you inform me how cucumbers are pickled, as put up in glass jars for market? If so, you will very much oblige a subscriber to your most valuable and ever welcome monthly visitor.—W. W. HAYWARD, *Westboro, Mass.*

Special Notices.

SUPERPHOSPHATE OF LIME FOR CORN.—The Hon. EDMUND BURKE, late Commissioner of Patents, gives the following report of some experiments made with Coe's Superphosphate of Lime, Poudrette and Peruvian guano, on Indian corn:

"I used a quantity of Coe's Superphosphate of Lime last spring on a piece of corn, side by side with two other well known fertilizers, Poudrette and Peruvian Guano. The difference in the effects of the three manures was striking indeed. The Poudrette was more active at first than the Guano, but the Phosphate was more active than either. The effect it produced was remarkable. From the moment the corn came up, that which was manured with the Phosphate shot ahead of those to which the other manures were applied, and before it tasseled seemed to be nearly one-half taller, the color much darker, and the stalk much cutter and more vigorous. At that stage of growth the difference between that portion of the corn tried with the Phosphate and those tried with Poudrette and Guano was distinctly visible as far as the corn could be seen. In growth and color the difference was so palpable as to arrest the attention of persons passing a quarter of a mile distant, and to invite from them inquiries as to the cause.

"I have used Peruvian guano for many years, and the poudrette and phosphate once only. But from the effects I mentioned in the experiment to which I have above referred, I have no hesitation in pronouncing Coe's Superphosphate of Lime to the best fertilizer which I have ever used."

Coe's Superphosphate is kept for sale by WM. THORBURN, Albany, N. Y.

IMPORTANT TO FARMERS.—To those who wish to purchase a perfect "*Combined Reaper and Mower*," we would say that Hall's Ohio Mower and Reaper" is manufactured at Auburn Harrison, by Messrs. Ross, DODGE & POMROY, sole proprietors for the State of New York for the use of these valuable patents. The machine is made of the best material, and warranted to be a perfect Mower or Reaper, and to cut easily, without clogging, any kind of grain or grass, either wet or dry.

The Mower has a cast steel Cutter-bar, 4 feet and 6 inches cut, with polished wrought iron guards, plated in the slot with cast steel and tempered.

The Reaping attachment has a Finger-bar and polished wrought iron guards attached to it, with a sickle-edged knife, which, for cutting grain, is far better than the smooth-edge mowing knives generally used. By means of the separate Finger-bar and Sickle, they are enabled to make the Reaper cut either five or six feet swath, and dispense with the heavy mowing-bar when reaping.

The Combined Reaper and Mower is delivered to the purchaser for the sum of $150 for a six months note without interest, or for $145 cash. The agents for Monroe Co., N. Y., are J. W. HANNAH, of Clifton, and DANIEL KINGSLEY, of Pittsford. my3t

ITALIAN BEES.—*The only importation this season.*—Having imported per steamer New York a lot of Genuine Italian Bees which arrived in a remarkably good state, I shall be able to furnish amateurs with pure, genuine Italian Queens within a short time. For price and other information, apply to C. WM. ROSE 68 Exchange Place, New York. Agents wanted.

CONSIGNERS to J. E. L. SMITH, mark packages $ No. 32 New Street, New York. Address letters and invoices, 34 Broad St., Box 507 Post Office, New York.

Produce on commission at Market rates. Refers to G. W. ROUCH, Esq., Bank of North America.

Improved Long Orange Carrot,

SUGAR BEET, &c.—The Subscribers beg to offer their fresh and full supply of SEEDS OF ROOT CROPS, all of which have been raised from the finest stock in the world.

They would call particular attention to their Long Orange Carrot Seed, which has proved to be the most valuable Root Crop now in cultivation.

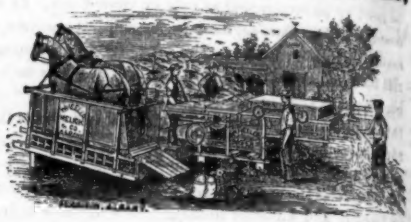
	Lbs. per acre.	Per lb.
Long Orange Carrot Seed,	2	$0 75
Red Altringham do do	2	75
Half Long Red do do	2	1 00
Early Scarlet Horn do	2	1 00
White French Sugar Beet,	3	50
Yellow do do do	3	50
Long Smooth Blood Beet,	4	75
Best Guernsey Parsnep,	3	75
Long White French Turnip, best in cultivation and also the most productive,	1	75
Improved Ruta Baga,	1	75
Red Top Strap-leaf Turnip,	1	75
White do do	1	75
Early White Dutch do	1	75

With Twenty other varieties of Turnip Seed.

☞ Catalogues on application to

J. M. THORBURN & CO., 15 John Street, New York.

New York State AGRICULTURAL WORKS,



Wheeler, Melick & Co.,

PROPRIETORS, ALBANY,

Manufacture WHEELER'S Patent Railway Chain

HORSE POWERS,

(FOR 1 OR 2 HORSES,)

PLANTATION HORSE POWERS,

(4 HORSE, OR 6 MULE, LEVER,)

WHEELER'S (IMPROVED) PATENT

COMBINED THRESHER AND WINNOWER

(No. 1, 30 INCH, and No. 2, 28 INCH CYLINDERS,)

Overshot Thresher and Separator,

and other Farming Machines for Horse Power use.

The Subscribers are inventors of all the above Machines, and give their entire attention to the manufacture of them; and having had the longest and largest experience of any firm in this business, feel warranted in saying that their MACHINES ARE UNEQUALLED. They call especial attention to their

Improved Thresher and Winnower,

Of which over 400 were sold in 1860, satisfying all purchasers of their superiority and economy for THRESHING, SEPARATING AND WINNOWING, AT ONE OPERATION.

CIRCULARS, containing List of Prices, *full Description*, and Cuts of each Machine, with statements of their capabilities for work, will, on application, be sent by mail, postage free.

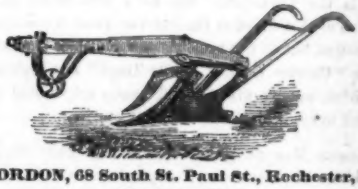
☞ Liberal discounts are made to dealers.

Responsible Agents are wanted in sections where we have none. Address May—2.

WHEELER, MELICK & CO., Albany, N. Y.

ROCHESTER AGRICULTURAL WORKS.

A NEW PLOW,



A. GORDON, 68 South St. Paul St., Rochester, N.Y.,

MANUFACTURER OF

Rulofson & DeGarmo's IMPROVED STRAIGHT DRAFT PLOW, Hyde & Wright's HORSE HOE or CULTIVATOR PLOW, Pitt's Premium THRESHING MACHINE, Gordon's ALL IRON EIGHT and TEN HORSE POWERS, Gordon's EMPIRE FEED CUTTER, ROCHESTER CUTTING BOX.

ALL of the above embrace the Latest Improvements, and are the best of their kind—are made in the most substantial and finished manner. I am the only manufacturer from which most of the above Implements can be procured. Farmers and Dealers in Agricultural Tools, desiring to secure the best Farming Utensils, are requested to send for Descriptive Circulars. Every Implement named has received the *First Premium*, having been awarded Silver or Gold Medals.

☞ ORDERS RESPECTFULLY SOLICITED. ☜

SEND FOR IT!—Every reader of the *Farmer* should send fifteen cents for valuable information, to

J. M. MILLER Newville, Pa.

WM. PATERSON'S
Improved Superphosphate of Lime.

MANUFACTURED and for sale at Division Street Wharf, Newark, N. J., and by the Manufacturer's Agents in this and other States.

It is put up in bags of 100 and 150 lbs. each, and marked with the Maker's name, to whom orders sent with cash, or satisfactory references here or in New York, will be promptly executed.

The aforesaid article consists principally of Charred Bones, dissolved by Sulphuric Acid with a large proportion of Peruvian Guano and other important ingredients.

The largely increased sales for the last seven years, with the unsolicited reports of Agents, and premiums awarded by State and other Agricultural exhibitions in past years, attest satisfactorily its remunerative results, being found more permanent in its effects than Peruvian Guano, and consequently more profitable.

It has been the aim of the manufacturer to make this manure what it is avowed to be, and the public may rest assured that it will continue to be uniform in quality and profitable to the buyer. Circulars, with particular instructions for use, will be sent by mail when requested or on application to his agents.

March—7t. WM PATERSON,

EXTRACT OF TOBACCO,
For Dipping Sheep and Lambs, and for Destroying all kinds of Vermin on other animals.

THE Manufacturers of this new and valuable preparation beg leave to call the attention of Farmers and Graziers to this effectual remedy for destroying Ticks, Lice, and all other insects injurious to animals and vegetation, and preventing the alarming attacks of the Fly and Scab on Sheep.

Its use not only removes the Vermin on animals, but cleanses and purifies the skin, thereby materially benefitting their general health, and greatly improving wool, both in quality and quantity.

This article completely supercedes that *laborious* and *disagreeable* work of preparation in your own buildings for Sheep-washing, as it is ready at all times, in any climate, and for all descriptions of Sheep, even for Ewes in Lamb, and can be furnished at a much reduced cost. FISHER & CO., SOLE AGENTS,

April—3t. 23 Central Wharf, Boston.

Peruvian Guano,
Government Brand and Weight;
Ichaboe Guano,
American Guano,
Fish Guano,
Improved Superphosphate of Lime,
Bone Dust, fine and loose,
Land Plaster,

For sale in quantities to suit purchasers.

A. LONGETT,

March.—3t No. 34 Cliff Street, New York.

Thorough-Bred Stock.

THE Subscribers, BRODIE, CAMPBELL & CO., are now engaged in Breeding and Importing Farm Stock of the first quality. Mr. BRODIE was formerly of the firm of HUNGERFORD & BRODIE (which firm is now dissolved.) His skill and large experience in the business are well known to Breeders.

Part of the Stock can be seen at S. CAMPBELL'S place, three miles west of Utica, or one and a half miles from the Whitesboro Depot, N. Y. Central R. R.

Mr. HUGH BRODIE is now visiting England and Scotland selecting animals. Parties wishing to purchase Short Horns or Ayrshires Leicester Sheep, or Yorkshire Hogs, can address

ap-3t JAMES BRODIE, Rural Hill, Jefferson Co., N. Y., or S. CAMPBELL & CO., New York Mills, Oneida Co., N. Y.

AMALGAM BELLS,
At Prices Within the Reach of every Church, School-house, Factory, Cemetery or Farm in the Land.

THEIR use all over the United States for the past two years has proven them to combine more valuable qualities than any other, among which tone, strength, durability, vibrations and sonorous qualities are unequalled by any other manufacturer. Sizes, 50 to 5,000 lbs., costing less than half other metal, or 12½ cents per lb., at which price we warrant them 12 months. Send for circular for sizes, guarantee, &c.

M. C. CHADWICK & CO.,

April—3t. 190 William St., New York.

FOR AN ESSAY ON HORSE-TAMING—Send a three-cent stamp to Box 502 Waterbury, Conn.

Bloomington Nursery, Illinois,

AT Junction of Illinois Central, (Dubuque and Cairo,) and St. Louis, Alton and Chicago Rail Roads. Established 1852. 120 acres Fruit, Ornamental and Nursery Stock. A very general and reliable assortment, cheap for cash. Particular attention invited to the splendid stock and assortment of *one year Apple Grafts*, mostly 2 to 3 feet: 1000, $25. Also, *Root Grafts*: 10,000, $50, for our ordinary and, we may add, unusually successful quality, (from which above named fine 1 year olds.) *Root Grafts*, extra strong, (to order only,) 10,000, $75. *Dwarf Fruit*,—choice *Currants* and *Grapes*, many sorts. *Mulberry*, Downing's, everbearing, $16 per doz. *Gooseberry, Blackberry, Raspberry*, 15 to $40 per 1000. *Strawberry*, including Wilson's, and both McAvoy's, 1000, $5. *Asparagus*, strong 3 year, 1:00, $5. *Rhubarb*, including Linnæus and Victoria, *true*, 1000, $30 to $60. *Apple Stocks*, good 2nd size for budding, 10,000, $15. Quince, Pear, Plum, Mahaleb and Rose Stocks. *Apple Seeds, Stadard* and *Weeping Trees, Roses, Shrubs* and *Bulbs*, a superb stock. *Evergreens*, nursery grown, several sorts, 1000, $10, &c. Packing can fully done. See Catalogue. Address, Bloomington, Ill.

Feb.—4t. J. K. PHŒNIX.

CHOICE VEGETABLE SEEDS BY MAIL.

THE following varieties will be mailed to any address in the Union on receipt of the price affixed, which may be remitted in postage stamps or current bills:

50 seeds	HUBBARD SQUASH,	15 cents
20 "	HONOLULU "	15 "
50 "	BOSTON MARROW SQUASH, *pure*,	15 "
50 "	JAPAN APPLE PIE MELON,	15 "
100 "	PERFECTED TOMATO (*Pomo d'Oro Lestert-ano*),	15 "
1 pkt.	EARLY PARIS CAULIFLOWER, the best in cultivation,	25 "
1 "	MARBLEHEAD MAMMOTH CABBAGE,	25 "
½ ounce	STONE MASON CABBAGE,	15 "
½ "	PREMIUM FLAT DUTCH CABBAGE,	15 "
1 pkt.	LEE'S NEW SPROUTING BROCCOLI, new English variety,	50 "
1 ounce	YELLOW DANVERS ONION, the best variety,	25 "

The entire collection will be sent by mail, prepaid, for $2 00. The above may be relied upon as the very best of their kind.

Address April—2t B. K. BLISS, Springfield, Mass.

MARBLEHEAD MAMMOTH CABBAGE.

THIS is the largest Cabbage in the world, averaging 30 lbs. per plant *by the acre!* Plants of this variety have been raised, weighing over 60 lbs., measuring nearly six feet around the solid head. Over sixty tons have been raised to the acre. Upwards of $300 have been cleared from one half acre of land planted to this Cabbage.

Circulars, in which the above facts are thoroughly substantiated, and many statements relative to the famous Mason and Stone Mason Cabbage, Marrow Squash, and Hubbard Squash, (for the introduction of which I received a piece of silver plate, as a testimonial from the Massachusetts Horticultural Society,) forwarded gratis.

Packages of the Mammoth, 25 cts. each; of the Mason or Stone Mason, 33 cents per ounce; $1.00 for four ounces. Hubbard Squash, 15 cts. for about fifty seeds; extra pure Marrow, 25 cts. per package. JAMES J. H. GREGORY,

Feb.—4t. Marblehead, Mass.

SEEDS! SEEDS! SEEDS!
Garden, Vegetable, Grass and Flower Seeds,

OF every desirable variety. *Priced Catalogues sent free by Post on application.*

No. 1.—Descriptive List of Flower Seeds, Horticultural Implements, etc

No. 2.—Vegetable, Grass, Herb, and Miscellaneous Seeds.

No. 3.—Wholesale Price List of Vegetable Seeds, for Dealers' use

ALFRED BRIDGEMAN,

March—3t. No. 876 BROADWAY, NEW YORK CITY.

WOOD CUTS FOR SALE.

WE will sell Stereotypes of the Wood Cuts used in the *Genesee Farmer* and *Rural Annual and Horticultural Directory*. A book containing impressions of over Seven Hundred of these cuts will be sent to those wishing to purchase on the receipt of 50 cents. The book contains an index, showing where descriptions of the cuts will be found.

Address JOSEPH HARRIS, ROCHESTER, N. Y.

EUREKA! EUREKA!!

A TOWNSHIP ATLAS of the Western Continent, containing 56 Maps, beautifully colored; published the present year, 1861, and bound in cloth, will be sent free to any address for $1. An Atlas of the World, $2. S. N. GASTON,

April—2t* 119 Nassau street, New York.

PRIZE MEDAL OHIO REAPER AND MOWER.

E. BALL'S PATENT.

MANUFACTURED BY

ROSS, DODGE & POMROY,

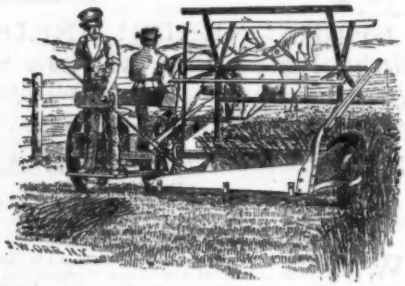
AUBURN, N. Y.

1. The carriage of the machine is mounted on two driving wheels. In connection with each of these is a spur wheel and pinion, making the machine stronger and more durable than any single-geared machine can be.

2. The relation between these two driving wheels is such that they operate jointly or separately, as circumstances may require. The result of this is, that when the machine is moving on a curve, either to the right or left, the usual speed of the knife is retained and clogging avoided, and in turning and backing the machine throws itself out of gear.

3 The weight of the carriage and gearing attached to it, as well as that of both raker and driver, is thrown directly upon the two driving wheels, by which the following advantages are gained: 1st. The wheels are prevented from slipping on the ground, and thus prevent the machine clogging. 2d. A powerful and efficient stroke to the knife is produced, enabling the machine to cut any kind of grass or grain without difficulty. 3d. No weight being thrown on either the platform or cutter bar but that of its own, side draft is obviated, and the machine made to run lighter.

4. The machine, both as a Reaper and Mower, has a flexible cutter-bar, which invariably adapts itself to the uneven surface of the ground. This is the first successful machine that ever combined this principle, and it is now an almost universally admitted fact among intelligent farmers and mechanics that it is impossible to construct a good Mowing machine without having a flexible cutter-bar and two driving wheels.



The advantages of this machine as a Reaper are very obvious:

1. The grain is delivered at the side of the platform, entirely out of the way of the next round.

2. It cuts a swath six feet wide, and will cut one acre per hour with one span of horses without injuring them.

3. It can be changed from a Mower to a Reaper in fifteen minutes, and vice versa.

There are other general points of excellence, the simple mention of which will be at once understood by the practical farmer.

1. The mechanical execution of the work, as well as the character of the materials used in their construction, is superior to that of most machines of the kind.

2. The driving wheels are three feet high, thus improving the draft.

3. It has an adjustable tongue by which the side draft can positively be controlled under all circumstances. Some machines have little or no side draft while mowing, but have a great deal while reaping. Nothing but an adjustable tongue can avoid this difficulty.

4 The height of the stubble can be changed from one to five inches in an instant, without stopping the machine. This is an important improvement from the fact that it enables the machine to cut lodged grass as close to the ground as that which is standing; or to cut a high stubble where the ground is rough, bogey, or stony; or the points of the guards can be turned above the grass whilst the machine may be passing over it after it is cut.

5. In case the "Lifting Principle" should be preferred to the one just described, the cutter-bar can be confined to cut at any given height, and then by the use of the lever, the driver, while on his seat, can raise the cutter-bar parallel with the ground from three to twelve inches. This arrangement facilitates turning and backing, or passing over large stones or stumps.

6. In moving the machine over cut grass, or from place to place, the cutter-bar can, in an instant, be raised, folded up and supported against the side of the machine.

7. The journals run in iron boxes babbeted, excepting the pitman box, which is composition.

8. The guards are polished wrought-iron, pinted with cast steel. The Mower cuts four feet six inches wide.

MANUFACTURED AT THE AUBURN STATE PRISON.

April—4t. ROSS, DODGE & POMROY.

GUANO.

We would call the attention of Guano Dealers, Planters, and Farmers, to the article which we have on hand and for sale at

40 PER CENT LESS THAN PERUVIAN GUANO,

which we claim to be superior to any Guano or fertilizer ever imported or manufactured in this country.

THIS GUANO IS IMPORTED BY

WM. H. WEBB,

OF NEW YORK, FROM

Baker's and Jarvis' Islands, in the South Pacific Ocean.

Sold genuine and pure as imported, by the Cargo, or at retail by

JOHN B. SARDY, GENERAL AGENT,

NO. 58 SOUTH SREET, CORNER WALL STREET.

NEW YORK.

It has been satisfactorily tested by many of our prominent Farmers, and analyzed by the most eminent and popular Agricultural Chemists, including Professor LIEBIG, of Germany, extracts of whose report and analysis are to be seen below, and found to contain (as will be seen by our circular) over 80 per cent. of

PHOSPHATE OF LIME,

and other animal organic matter, yielding ammonia sufficient to produce immediate abundant crops, besides substantially enriching the soil. It can be freely used without danger of burning the seed or plant by coming in contact with it, as is the case with some other fertilizers; retaining a great degree of moisture, it causes the plant to grow in a healthy condition, and, as experience has proved,

FREE OF INSECTS.

For orders in any quantitity (which will be promptly attended to), or pamplets containing full particulars of analyses and tests of Farmers, apply as above.

Prof. LIEBIG say, under date—July, 1860:

"The Baker's Island Guano contains more *Phosphoric Acid* than any other known fertilizer. * * * I regard the discovery of these guano deposits as a most fortunate event for agriculture. * * * The Phosphate of Lime in the Baker's Island Guano is far more easily dissolved than that of bones. * * * *Agriculturists would be benefitted as much by using* 70 *lbs. of Baker's Island Guano as by* 100 *lbs of Bone Dust.* * * * The Jarvis Island Guano would seem to be an excellent means of restoring cotton and sugar plantations, whose soil has been worn out by long continued cultivation. *I think it is preferable to Peruvian Guano*, which being rich in ammonia, tends rather to great development of leaves and stems."

"Women of New York."

MRS. HANKINS' Curious new Book of Female Characters in the City, is very interesting and strictly moral. Fancy binding. 350 pages. 50 Engravings. 36 Portraits. Mailed free for $1. AGENTS Wanted—Ladies and Teachers. Description of Books and Particulars of Agency mailed gratis. Address

March.—6t. HANKINS & CO., New York.

How Beautiful for a Child's Grave!

DAGUERREOTYPE PICTURES Attached to Head Stones and Monuments in a PARIAN MARBLE CASE, and warranted to secure the Likeness from any air or dampness for a long number of years. Any Daguerreotypist can copy the Daguerreotype into these Cases from the original picture, and it is but a few moments work to attach one of them to a Head Stone. When attached to a Head Stone or Monument, they look as though they were carved on with the sculptor's chisel, for they imitate marble so perfectly. They are very ORNAMENTAL to a Head Stone, and are worth twice the amount charged, for an Ornament. More than Fifteen Thousand Cases have been sold. This fact alone shows conclusively that they are fast coming into general use.

The adorning of the Sepulchres of removed ones alleviates our grief, and soothes the wounded heart. It also cheers the bereaved to know that an additional embellishment of the grave presents stronger attractions to arrest the attention of the stranger, and cause him to pause and learn the *name* and gaze on the *likeness* of one who has shared so largely in the love of others. To a refined and cultivated mind, there is not a more mournful spectacle on earth than a desecrated grave, or a neglected and overgrown grave-yard. *Those* in whose memories the *departed* live, will come to strew flowers on their graves, and drop the tear of affection.

They will there plant the Rose, the Lily, and the Evergreen, as Emblems of a fragrant and beautiful Immortality, which they assign them in the Paradise of God. Above all we would deplore the loss of those *likenesses* of dear departed ones, which are so distinctly engraven upon the tablets of our memory. Although months and years may elapse since inexorable Death made us surrender the bodies of cherished ones to the grave, and their spirits to God, yet they are still present to our minds, beautiful and life-like.

And who does not realize a melancholy pleasure in recalling departed ones, be their image clothed with the innocence and loveliness of Youth, or marked by the sorrows or cares of Age.

One of these Cases will be sent by Express to any person in the United States for Two Dollars. One Dozen Cases will be sent to any Marble Dealer or Daguerreotypist for Twelve Dollars.

Circulars, &c., furnished free, and sent with each package of Cases. Agents can charge $5 apiece when they attach them to head stones.

Any person wishing to sell them can be supplied at Twelve Dollars per dozen.

Young Men and Mechanics can, by engaging in this business, make easily *Five Hundred Dollars* this Spring, and only Twelve Dollars required as Capital to commence with.

A Monumental Design Book will be sent to any Marble Dealer for Three Dollars. This is a first-rate work, and well worth the price asked for it.

All orders must be accompanied with the money. I will be responsible for its safety, if you have proof of sending it.

Address the manufacturer,

A. LEWIS BALDWIN. West Meriden, Ct.

SCHENECTADY AGRICULTURAL WORKS.

THE Subscribers manufacture Improved Endless Chain and Lever HORSE POWERS, COMBINED THRESHERS AND CLEANERS, THRESHERS and VIBRATING SEPARATORS, CLOVER HULLERS, WOOD SAWS, &c., of which a full description will be found in their Illustrated Circular.

The annexed letter relates to one of our Two-Horse Machines (Thresher and Cleaner):

DEXTER, March 18th, 1861.

G. WESTINGHOUSE & Co.:—Having followed threshing for some time, and worked with nearly every kind of Double Tread machines in Northern New York, I would say, after seeing one of yours work which was built last season, that it is a little ahead of anything of the kind I ever saw. I think of purchasing one next fall, &c., &c. E. PLUMB.

Send for a circular and price list. Address

G. WESTINGHOUSE & CO, Schenectady, N. Y.

ONTARIO GRAPE.

FOR SALE—Strong, well-rooted vines, grown from wood cut from the original vine in Canada. Grows clusters weighing from 1 to 2½ lbs. Twenty days earlier than the Isabella. Parties ordering can rely upon getting true vines. Price—$3 single vine; $30 per dozen. OTIS F. PRESBREY,

Prospect Hill Vineyard,

April—2t Buffalo, N. Y.

HUBBARD SQUASH.

I HAVE received from the Massachusetts Horticultural Society, a piece of Silver Plate, as **Original Introducer** of this celebrated Squash. A package of about 50 seeds, of the purest quality grown, *warranted* to reach each purchaser, 15 cents; four packages, 50 cents, JAMES J. H. GREGORY.

March—3t. Marblehead, Mass.

PURE BRED POLAND PIGS—G. W. MILLER supplies all orders for thoroughbred Poland Pigs. Price, from $10 to $15 each, according to age. Address G. W. MILLER,

1t* Nineveh, Johnson Co., Indiana.

The Greatest Novel of the Day.

FIFTH THOUSAND

OF

ELSIE VENNER,

BY OLIVER WENDELL HOLMES.

2 vols. Muslin. $1 75.

GENERAL CRITICISMS.

JOHN NEAL writes:

"It is a tale of uncommon strength and originality."

DR. SHELTON MACKENZIE pronounces it:

"A good book, written by a man of genius."

The CONGREGATIONALIST says:

"We rank this fiction among the most remarkable in our language."

In the PHILADELPHIA BULLETIN it is called:

"The most original and powerful of all the literary efforts of Dr. HOLMES. * * * The best, original and most artistic of all his works."

☞ For sale by all Booksellers, or sent *post paid* by the Publishers.

TICKNOR & FIELDS,

No. 135 Washington Street, Boston, Mass.

SHEEP FOR SALE.

FOR SALE at the Lorillard Sheep Farm at Fordham, Westchester Co., 12 miles from the City of New York, on the N.Y. & Harlem Railroad, 20 SOUTH DOWN RAMS, yearlings; also, 20 SHROPSHIRE DOWN RAMS, yearlings—the production of the finest imported Rams, having taken the first premiums at the New York State Fairs in 1859 and 1860.

Inquire at 16 and 18 Chambers St., New York. Dec.—6m

FANCY FOWLS.—I have on hand, for sale, White Dorkings Black Spanish, Black and Golden Spangled Polands and Hamburghs, Black African, White, Red and Golden Spangled Bantams, Madagascar Rabbits and four varieties of Geese, etc. For further information address, W. A. GOODING,

March—10t.* Lockport, Illinois.

GEORGE MILLER—Importer and Breeder of Short-horn and Galloway Cattle, Leicester and Cotswold Sheep, Markham P. O., Co. York, Canada West. N. B. A few choice Dorking Fowls, bred from imported stock, can be had in autumn. Price $5 per pair. July—1y

"FAMILY NEWSPAPER."

MRS. HANKINS' Mammoth Pictorial is in its Sixth Volume, and has 300,000 readers. Full of Engravings and Fashion Plates. Largest, nicest and best in the World, for **75 cents a year.** AGENTS Wanted. Ladies, Teachers, Clergymen or Post Masters. Specimen copies and Terms to Agents mailed gratis.

March.—6t. Address HANKINS & CO., New York.

No. 1 Peruvian Guano, Warranted Pure,

SUPERIOR PHOSPHATE OF LIME,

PURE GROUND BONE, POUDRETTE, &c.,

Sold by GRIFFING, BROTHER & Co.,

Feb.—4t. 60 Courtland St., New York City.

NANSEMOND SWEET POTATO PLANTS—For Northern Planting. A superior article, during May and June. 1,000, $2; 5,000, $9; 10,000, $15. Packed to go safely long distances. Produces good crops 4° north. ☞ Send for my new Circular of Directions in Culture, and experience of patrons.

C. B. MURRAY,

April—2t Foster's Crossings, Warren Co., Ohio.

BUTTER AND CHEESE MAKING.—On the receipt of 25 cents, Mrs. ELIZA A. CALL, of Fabius, Onondaga Co., N. Y., will send to any address, prepaid, by return mail, a copy of her "Young Housekeeper and Dairymaid's Directory," containing the whole art of making Butter and Cheese, and One Hundred and Seventy reliable and valuable Domestic Receipts. 1t*

Wilson's Strawberry Plants.

FOR SALE—100,000 Wilson's Albany Strawberry Plants, at $3?0 per thousand. OTIS F. PRESBREY,

April—2t. Prospect Hill Vineyard, Buffalo, N. Y.

6,000 AGENTS WANTED—To sell SIX NEW INVENTIONS—two very recent, and of great value to families; all pay great profits to Agents. Send four stamps and get 80 pages particulars. Myl* EPHRAIM BROWN, Lowell, Mass.

$2,000 A YEAR.—For particulars enclose two three-cent stamps, and address Box 160, P. O., Norwich, Ct.

$5 MAP FOR 25 CENTS!

COLORED IN STATES, NICELY,

OR, 15 CTS. PLAIN.

Took 3 Years to Engrave this Map.

LLOYD'S UNITED STATES R. R. MAP OF AMERICA IS NOW READY.

HAVING been engraved on a new plan entirely, and printed and colored on a POWER PRESS we can make and color it so low as to defy competition. The usual price of a Map of this size is from $5 to $8.

IT IS FOUR FEET SQUARE,

Printed on an entire sheet of strong white linen paper, and shows to the reader, at one glance, from CANADA to TEXAS, and is *acknowledged by all R. R. men to be the most CORRECT* Map ever offered to the people of this Country, and is used by them altogether. To show how correct this Map is, we will just say that, on the 26th of March, the Cincinnati and Chicago Air Line R. R. was opened from Cincinnati to Chicago, and it is laid down correctly on our Map.

Lloyd's R. R. Map shows every Railroad in running order, up to Feb. 1st, 1861. Every station is marked down on the roads, and the distances between each station, and the total length of the road, and also the names of its officers and their places of residence, and the running time of the trains on every R. R. in America are given. Every River in America is traced out and the Towns and Cities on the Ohio and Mississippi and other Rivers are marked down plainly. **ALL THE STRONGHOLDS IN THIS COUNTRY ARE LAID DOWN PROMINENTLY**; the Reader can see at a glance the situation of the *NORTHERN and SOUTHERN STATES, and can comprehend at a glance the immense extent of territory owned by the South, which is washed by the sea for more than two thousand miles.*

In addition to the main Map, there is a Map of the EASTERN STATES inserted in the blank space at the foot of the large Map, South, which is on a scale THREE TIMES AS LARGE as the main Map, showing every R. R. Station, City, River, Mountain and Lake, East of New York city in the NEW ENGLAND STATES, which *is alone worth three times the price of the Map.*

30,000 Cities, Towns and Stations are laid down

on Lloyd's Map.

A TIME INDICATOR is also inserted on the face of Lloyd's Great United States R. R. Map, SHOWING THE DIFFERENCE IN TIME AT WASHINGTON, D. C., AND THE PRINCIPAL CITIES IN THIS COUNTRY AND EUROPE. Thus, when it is 12 o'clock, M., at Washington, it is *half-past TWO O'CLOCK the following night at Jeddo, Japan*—being 14 hours ahead of our time at Jeddo.

Lloyd's Map can be folded up and put away without creasing, or hung up on the wall.

AGENTS WILL FIND THAT THEY CAN SELL from 20 to 40 copies of the Colored Edition daily. It can be sent by mail in strong wrapper, by the quantity, at *one-half cent per copy.*

COUNTY RIGHTS GIVEN.

This excellent map is now ready for the people, and can be mailed anywhere in the United States for one cent postage. The plain edition is only FIFTEEN CENTS PER COPY, *the colored edition is 25 cents a copy*, and we warrant the Map to be all that it is represented to be. Agents are supplied at greatly reduced rates. *Agents can sell the colored edition fastest.*

☞ SEND MONEY FOR SAMPLE Copy and Private Circular, giving Terms and County Rights. Agents can sell this Map to *everybody they call on*, as it is the cheapest and best Map in the United States, and shows at a glance from the Atlantic Ocean to the Gulf of Mexico.

☞ POSTMASTERS can sell this Map to everybody in their district. Big profits allowed them! Send for a Sample!

☞ NO STAMPS TAKEN. *No Samples can be sent without the money, as our profit is very small.*

☞ NO LICENSE IS REQUIRED TO SELL THIS MAP IN ANY STATE IN AMERICA.

AS there is so much deception practiced upon the public now-a-days, we have thought it advisable to submit evidence of the correctness of this Circular:

NEWARK, New Jersey, 1861.

J. T. LLOYD:—Enclosed is $3.00; I consider your Railroad Map alone worth that amount. JOHN S. DARCY,
President New Jersey R. R. Co.

UNITED STATES LAND OFFICE, Pensacola, Florida.

J. T. LLOYD:—Send me two copies of your valuable Railroad Map every week. H. WELLS, Land Commissioner.

LOGANSPORT, PEORIA, AND BURLINGTON R. R. Co., 1861.

J. T. LLOYD:—Send me twenty-five copies of your valuable Railroad Map for use of our station.
CHARLES FOLLETT, General Ticket Agent.

OFFICE MICHIGAN CENTRAL R. R. Co.,
DETROIT, August 24, 1860,

MR. DARIUS CLARK, Agent Michigan Central Railroad Co. No. 173 Broadway, New York.—Dear Sir: We believe from the plan of Lloyd's Railroad Map, and its cheapness, that it will supercede all competitors. Mr. R. N. Rice, our Superintendent, quite pleased with Lloyd's Railroad Map, and hereby directs you to pay $30.00 for ten copies, to be sent yearly to the address of the following persons connected with our road.
Respectfully, THOMAS FRASER,
General Ticket Agent Mich. Cen. R. R. Co.

LLOYD'S AMERICAN RAILROAD MAP, is one of the most useful weekly publications in this country. It is a paper of mammoth dimensions, containing on one entire side a map of all the railroads in the United States, together with a dial showing the corresponding time with Washington city, D. C., at 12 o'clock, noon of all the principal points in the United States and the World. On the other page is contained under its number every Railroad Time Table in the United States, their officers, fares, distances, etc., etc., etc. It is the best thing of the kind we have ever seen, and should be in the hands of every hotel-keeper, railroad man, and traveler in the country. It is published at 164 Broadway, New York.—*Marietta* (Ga.) *Advocate.*

LLOYD'S RAILROAD MAP is said to be the most comprehensive and accurate Map published.—*Norwich* (Ct.) *Aurora.*

LLOYD'S RAILROAD MAP is the most accurate railroad map and guide extant.—*Norwich* (Ct.) *Courier.*

WASHINGTON CITY, February 6th, 1861.

J. T. LLOYD.—Dear Sir: Enclosed find $1.00, the worth of which please forward in your R. R. Maps. I wish to use them before the Legislatures of the Southern States.
Respectfully, GEN. DUFF GREEN.

GENERAL SUPT.'S OFFICE, VIRGINIA & TENN. R. R. Co.,
LYNCHBURG, Va., February 1st, 1861.

DEAR SIR:—I think highly of your "American Map," and I enclose you twenty dollars in order to aid in keeping it up.
E. H. GILL, Gen. Supt.
J. T. LLOYD, 164 Broadway, New York.

OFFICE OF THE GENESEE FARMER,
ROCHESTER, N. Y., April 9th, 1861.

J. T. LLOYD:—I think your Map a most valuable one. I should think it would have a great sale. JOSEPH HARRIS,
Proprietor of *Genesee Farmer.*

☞ I REFER TO ANY R. R. MAN in the United States for the correctness of Lloyd's R. R. Map. Address
May—3t **J. T. LLOYD, Publisher,**
No. 164 BROADWAY, NEW YORK CITY, N. Y.

Important to every Man who Keeps

THORLEY'S FOOD FOR CATTLE,

CONVERTS the poorest Hay or Straw into a Superior Provender. For Horses it is indispensable in promoting and sustaining the animal functions in health and vigor. For Milch Cows, it is invaluable, increasing the quantity and improving the quality of the milk. For Beasts, nothing can compare with it for feeding quickly. For Sheep and Pigs, the effects produced in one month will exceed all expectation.

Sold in casks, containing 448 feeds, price $14; ½ casks, containing 224 feeds, $7; and ¼ casks, containing 112 feeds, $4.

Depot for the United States, No. 21 Broadway, New York.

A Pamphlet, descriptive of its utility, containing Testimonials and Directions for Use, sent free on application.

N. B.—Agents required in every principal town in the United States. March, 1861.—6.

COUNTRY AGENTS WANTED.

$3 A DAY. Mrs. HANKINS wants Good Agents at home or to travel for her Pictorial "FAMILY NEWSPAPER," also for her Curious new Book of FEMALE CHARACTERS IN THE CITY. Specimens and Terms mailed free. Address
March.—6t. HANKINS & CO., New York.

Gladding's Horse Pitch Fork!

MANUFACTURED BY S. BULLOCK.

THIS valuable improvement possesses many important advantages over all other Forks, among which are the following: The tines being allowed to drop to discharge its load, the tilting of the handle, as in other Forks, is avoided; hence, hay can be unloaded with the utmost facility and ease into shed windows or beneath purline beams, and other places where other horse forks can not be used. It can in all cases be managed with greater ease than any other Horse Fork. It is equally adapted to stacking. With this Fork a ton of hay may be unloaded in from 5 to 7 minutes.

TESTIMONIALS.

Its simplicity, durability and perfect operation, as well as comparatively trifling expense, recommend its use to the farmers of our country. A. B. DICKINSON.

Decidedly the best I am acquainted with. A. E. KAPP.

A valuable labor-saving improvement. J. RAPALJEE, Genesee Seed Store.

It possesses several advantages over the Horse Fork commonly used. J. J. THOMAS.

The best machine for the purpose within our knowledge, and therefore commend it to the attention of all interested. It must prove a decided acquisition in the haying season, when both time and labor are money. D. D. T. MOORE.

It will prove a wonderful labor-saving machine. I believe wherever tried it will be found profitable. JOHN JOHNSTON, Geneva.

Unloading hay at the barn by horse power is such a simple operation that it seems wonderful how a sensible farmer can continue the exceedingly hard labor of lifting it a forkful at a time in the stifling heat of a July afternoon.—*N. Y. Tribune.*

The best apparatus for unloading hay we are acquainted with.—*Genesee Farmer.*

Gladding's Horse Pitch Fork is one of the labor-saving machines which it will pay to purchase.—*Prairie Farmer.*

Unloading hay in a barn by means of a Horse Pitch Fork is becoming quite common in some sections of our country, and will be practiced everywhere as soon as the farmers understand the operation. The invention of C. E. Gladding is the best we have seen in operation.—*American Agriculturist.*

C. E. Gladding has constructed a Fork which, after a recent trial, we are satisfied is an important improvement.—*Albany Cultivator.*

☞ The above testimonials are selected from many others, the signers being generally known as distinguished agriculturists. All who have seen it operate agree in the above opinion of its merits. This Fork has taken the First Premium at *every* Fair at which it has been exhibited, including the State Fairs of Pennsylvania and New York for 1858; New York, Illinois, Michigan, and United States Fair at Chicago for 1859; Pennsylvania, New York, Ohio and United States Fair for 1860, besides numerous County Fairs.

Fork, Rope and Pulleys, $12. Agents wanted.

STEPHEN BULLOCK, Agent,

Columbia X Roads, Bradford Co., Penn.

For sale by Implement Dealers throughout Western New York.

THE KEDZIE FILTER.

This Filter possesses every *practical* and *scientific* arrangement for the objects intended, viz: rendering the most impure rain and river water free from all decomposed organic matters and gases, color, taste or smell. *Pure Water* is the chief conservator of the human system, and can be surely obtained by using this, the best portable Filter known. They are durable, convenient and cheap; can be transported in safety any distance, and are sure to give satisfaction.

Manufactured by JAMES TERRY & CO., Rochester, N. Y.

☞ Descriptive Catalogues sent free. May—3t.

BOOK AGENTS MAKE MONEY

IF they get **good books** and canvass in a **proper manner.** Now the best books for Agents are conceded to be those published by the **AUBURN PUBLISHING CO.**; and the best **practical directions** to Agents are contained in their confidential Circulars to Agents, which are sent free to all applicants. It also contains numerous letters from agents from all parts of the country, showing their practice, and that their clear profits are **over $100 per month;** also our *special and liberal offers.*

Address H. E. G. **STORKE, Auburn, N. Y.**

GOOSEBERRIES AND BLACKBERRIES.

THE Subscriber has DORCHESTER BLACKBERRIES and HOUGHTON GOOSEBERRIES for sale at 50 cts. per dozen.

HENRY G. WESTON, Woburn, Mass.

TRY IT!—Every reader of the *Farmer* can obtain valuable information by sending five red stamps in a letter to J. M. MILLER, Newville, Pa.

$100 PER MONTH—Made by any one with Stencil Tools. For a circular explaining the business,

Address JOHN MILLIKEN,

May—1y. Lawrence, Mass.,

PLEURO-PNEUMONIA IN CATTLE.—The Subscriber prepares a medicine which cures this disease when given in its *earliest stages.* GEO. J. SCATTERGOOD, Druggist,

May—2t. 50 Callowhill Street, Philadelphia, Pa.

CONTENTS OF THIS NUMBER.

What do we Plow for, ... 137
Turkey Raising, ... 138
Applying Manure to Corn. No Bugs in late sown Peas, ... 139
Fingered Wheat and Barley, ... 140
Two and Six-rowed Barley, ... 141
Spirit of the Agricultural Press 141
Shearing Sheep. To keep Birds from Eating Seed, ... 141
Care of Horses. Cholic in Horses 141
Keeping Cows' tails clean. The South American Potato, 141
Bee Robbers. Put Elder Bushes in the Plum Trees, ... 141
Hog Raising at the South, ... 142
The Highways a Test of Civilization, ... 142
Length of Mangel Wurzel Roots, ... 142
Experiment in Grass Culture, ... 142
How Stock choose their Pasture. Poplar Rails, ... 142
Club-root in Cabbage. Influenza in Horses, ... 142
Sulphur for Potatoes. Choked Cattle, ... 143
Canadian Oats in England, ... 143
Bee Keeping, ... 143
Cultivation of Tobacco in New York, ... 144
Oats for Swine. To keep Ants from Bee-hives, ... 146
Spring Wheat in Wisconsin. Root cut ure in Massachusetts, 147
Progressed Phosphates. Rats. Ants 148
The Chinese Sugar Cane 148
Items of Agricultural Experience. No. 8, ... 149
Ground Plan for a Farm House, ... 149
Industry is King. To make Corn grow rapidly, ... 150
A good Crop of Oats. Kerry Cattle, ... 150

HORTICULTURAL DEPARTMENT.

Horticultural Notes for the Month, ... 153
Black Currant for Wine. Transplanting Roses 154
Underdraining Gardens. Syrup from Water Melons, ... 154
Cultivation of Grapes, ... 154
Hanging Baskets, ... 156

LADIES' DEPARTMENT.

The Flower Garden, ... 157

MISCELLANEOUS.

Water-proof Cloth. Art of Laughing, &c., ... 157

EDITOR'S TABLE.

Notes on the Weather, ... 158
Items, Notices, &c. 158, 159
The Markets 159
Inquiries and Answers, ... 160, 161

ILLUSTRATIONS.

Fingered Barley. Egyptian or Mummy Wheat, ... 140
Nine figures illustrating the Culture of Tobacco, ... 144, 145, 146
First and second floor plans for a Farm House, ... 149, 150
A Kerry Bull, ... 152
Ornamental Hanging Baskets (3 figs.) 156

THE GENESEE FARMER,

A MONTHLY JOURNAL OF

AGRICULTURE AND HORTICULTURE,

IS PUBLISHED AT ROCHESTER, N. Y.,

By JOSEPH HARRIS.

It is the cheapest agricultural paper in the world, and has attained an unrivalled circulation.

Terms—INVARIABLY IN ADVANCE—FIFTY CENTS A YEAR; Five Copies for $2; Eight Copies for $3, together with a *Rural Annual and Horticultural Directory* to the person getting up the club. It is not necessary that the club should be all at one office—we send wherever the members of the club desire.

☞ All friends of rural improvement are respectfully solicited to obtain and forward subscriptions.

The Postage on the *Genesee Farmer* is only 3 cents a year in the State of New York, and 6 cents a year in other States.

Specimen numbers sent *free* to all applicants.

The address of papers can be changed at any time.

Homes for the Industrious!

— IN THE —

GARDEN STATE OF THE WEST.

THE ILLINOIS CENTRAL RAILROAD CO., HAVE FOR SALE

1,200,000 ACRES OF RICH FARMING LANDS,

In Tracts of Forty Acres and upward, on Long Credit and at Low Prices.

MECHANICS, FARMERS AND WORKING MEN.

THE attention of the enterprising and industrious portion of the community is directed to the following statements and liberal inducements offered them by the

ILLINOIS CENTRAL RAILROAD COMPANY.

which, as they will perceive, will enable them by proper energy, perseverance and industry, to provide comfortable homes for themselves and families, with, comparatively speaking, very little capital.

LANDS OF ILLINOIS.

No State in the Valley of the Mississippi offers so great an inducement as the State of Illinois There is no portion of the world where all the conditions of climate and soil so admirably combine to produce those two great staples, CORN and WHEAT, as the Prairies of Illinois.

THE SOUTHERN PART

of the State lies within the zone of the cotton regions, while the soil is admirably adapted to the growth of tobacco and hemp; and the wheat is worth from fifteen to twenty cents more per bushel than that raised further north.

RICH ROLLING PRAIRIE LANDS.

The deep rich loam of the prairies is cultivated with such wonderful facility that the farmers of the Eastern and Middle States are moving to Illinois in great numbers. The area of Illinois is about equal to that of England, and the soil is so rich that it will support twenty millions of people.

EASTERN AND SOUTHERN MARKETS.

These lands are contiguous to a railroad 700 miles in length, which connects with other roads and navigable lakes and rivers, thus affording an unbroken communication with the Eastern and Southern markets.

APPLICATION OF CAPITAL.

Thus far, capital and labor have been applied to developing the soil; the great resources of the State in coal and iron are almost untouched. The invariable rule that the mechanical arts flourish best where food and fuel are cheapest, will follow at an early day in Illinois, and in the course of the next ten years the natural laws and necessities of the case warrant the belief that at least five hundred thousand people will be engaged in the State of Illinois in various manufacturing pursuits.

RAILROAD SYSTEM OF ILLINOIS.

Over $100,000,000 of private capital have been expended on the railways of Illinois. Inasmuch as part of the income from several these works, with a valuable public fund in lands, go to diminish the State expenses, the TAXES ARE LIGHT, and must consequently every day decrease.

THE STATE DEBT.

The State Debt is only $10,105,398, 14, and within the last three years has been reduced $2,959,746 80, and we may reasonably expect that in ten years it will become extinct.

PRESENT POPULATION.

The State is rapidly filling up with population; 868,023 persons having been added since 1850, making the present population 1,723,663, a ratio of 102 per cent. in ten years.

AGRICULTURAL PRODUCTS.

The Agricultural products of Illinois are greater than those of any other State. The products sent out during the past year exceeded 1,500,000 tons. The wheat crop of 1860 approaches 35,000,000 bushels, while the corn crop yields not less than 140,000,000 bushels.

FERTILITY OF THE SOIL.

Nowhere can the industrious farmer secure such immediate results for his labor as upon these prairie soils, they being composed of a deep rich loam, the fertility of which, is unsurpassed by any on the globe.

TO ACTUAL CULTIVATORS.

Since 1854, the company have sold 1 300,000 acres. They sell only to actual cultivators, and every contract contains an agreement to cultivate. The road has been constructed thro' these lands at an expense of $30,000,000. In 1850 the population of the forty-nine counties through which it passes was only 335,528; since which 479,293 have been added, making the whole population 814,891, a gain of 143 per cent.

EVIDENCES OF PROSPERITY.

As an evidence of the thrift of the people, it may be stated that 60,000 tons of freight, inclucing 8,600,000 bushels of grain, and 250,000 barrels of flour, were forwarded over the line last year

EDUCATION.

Mechanics and workingmen will find the free school system encouraged by the State, and endowed with a large revenue for the support of schools. Their children can live in sight of the church and schoolhouse and grow with the prosperity of the leading State in the Great Western Empire.

PRICES AND TERMS OF PAYMENT.

The prices of these lands vary from $6 to $25 per acre according to location, quality, &c. First-class farming lands sell for about $10 or $12 per acre; and the relative expense of subduing prairie land as compared with wood lands is in the ratio of 1 to 10 in favor of the former. The terms of sale for the bulk of these lands will be

One Year's Interest in advance,

at six per ct. per annum, and six interest notes at six per ct. payable respectively in one, two, three, four, five and six years from date of sale; and four notes for principal, payable in four, five, six and seven years from date of sale; the contract stipulating that one-tenth of the tract purchased shall be fenced and cultivated, each and every year, for five years from date of sale, so that at the end of five years, one-half shall be fenced and under cultivation.

Twenty Per Cent. will be deducted

from the valuation for cash, except the same should be at six dollars per acre, when the cash price will be five dollars.

Pamphlets descriptive of the lands, soil, climate, productions, prices and terms of payment, can be had on application to

J. W. FOSTER, Land Commissioner, Chicago, Illinois.

For the names of the Towns, Villages and Cities situated upon the Illinois Central Railroad see pages 188, 189, 190, APPLETON'S RAILWAY GUIDE.